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Abstract: *My aim in this paper is limited in scope. I will present Benacerraf's well-known dilemma,¹ offering historical remarks both on its origins and on its influence on the philosophy of language and the philosophy of mathematics of the last fifty years (forty-six, to be precise). I will then consider a suggestion of Charles Parsons to the effect that there is a Kantian analogue of the dilemma.² I will make some critical comments in order to provide what I believe is an improved formulation of Parsons's suggestion. I will briefly conclude with a presentation of further directions of inquiry based both on this new formulation and on the conception of arithmetical intuition developed in Parsons.³*

Keywords: *Benacerraf's dilemma, I. Kant, mathematical intuition, mathematical knowledge, mathematical objects, C. Parsons, Structuralism, Truth.*

A KANTIAN ANALOGUE OF BENACERRAF'S DILEMMA: PRELIMINARY COMMENTS ON A SUGGESTION OF CHARLES PARSONS

1. Philosophers of the second half of the twentieth century and of the early part of the twenty-first have discussed two theses. Not all them have, of course, and quite a number of them have been busy pondering over quite different issues, but a great number of them in the analytic tradition have nevertheless either advocated or rejected them in one form or another. Here is a brief and unpolished version of these insights. The first is that language contacts reality through quantifiers. The second is that the semantic interpretation or value of the sentences of a language is to be understood in terms of their truth conditions. The philosophers who were concerned with such insights have then considered these two claims with various mathematical languages in mind. By way of an application of the insights to, say, the language of arithmetic, or to the language of set theory, or to the language of some other selected mathematical theory, they have gone on to either defend or attack the view that these languages contact mathematical reality, or some particular portion of it (numbers, sets, etc., as the case may be) through quantifiers, and that the semantic interpretation or value of their sentences or formulae had to be understood in terms of conditions of their truth.

Among those who felt uncomfortable with the two insights, some complained that it is mysterious how we know anything abstract, in particular the abstracta that appear in the truth conditions of the sentences of mathematical languages. The lesson they drew

was that they had to meet a challenge. The challenge, of course, was to give an account of quantification and truth conditions that would be compatible with an explanation of the acquisition of mathematical knowledge, i.e. of true justified mathematical beliefs.

Various arguments and techniques have been called to the rescue to show that the compatibility could indeed be obtained and, in one particular case, to show that it wasn't needed anyway (more on this point later on in this section). My purpose here isn't to be exhaustive and critical, let alone to go into the many details of the arguments and techniques that have been provided, but to give a general picture of the situation thereby generated. This is important because the challenge has somehow determined a model of philosophical inquiry for philosophers concerned with *the philosophy of the language of mathematical theories*, a model of the kind of thing that might be done, or that at least might prove to be worth trying, when addressing the compatibility question. Little by little, the model has become "too obvious for words" to adopt Charles Taylor's phrase,⁴ the need to argue for the compatibility of semantics and epistemology becoming an organizing principle for these philosophers' practice.

One may distinguish two kinds of agendas or programs addressing the challenge. The first kind pertains directly to quantification, the second pertains directly to truth.

Quantification. The first kind of agenda may take on two forms.

A. One *reinterprets mathematics* entirely so that *no abstracta* such as numbers, functions, sets and the like appear among the values of the variables bound by the objectual existential quantifier, but only — rather typically⁵ — physical objects, linguistic expressions or mental constructions, i.e. items which (supposedly) do not qualify as causally inert entities. The problem remains, of course, to construe them as causally active. It is far from obvious that *types* of physical objects or linguistic entities — as opposed to tokens — will qualify, not to speak of mental constructions, whether they happen to be those of the idealized Brouwerian creative subject or those of a naturalized knower of mathematics. The point here, in any event, is to secure *concreta* in the course of values of the bound variables, so that sentences of the form " $(\exists x)...$ " read as "There is at least one object...", where objects are placed within the reach of means of human cognition *not* involving a direct grasp of abstracta.

B. The other option is to *reinterpret the quantifiers* and to allow only the *substitutional* interpretation. (One may describe this move somewhat more drastically by saying that one thereby adopts another *variety* of quantification altogether, thus discarding the familiar objectual kind.) Instead of formulating existence claims with the objectual quantifier " $(\exists x)$," one formulates them with the substitutional quantifier " (Σx) ." The point here is that the bound variables range over *names* instead of objects so that sentences of the form " $(\Sigma x)...$ " read as "There is at least one true substitution instance of..." Names, or at least particular inscriptions or instances of them do count here — as it were by definition or qua linguistic items — as being indeed within the reach of human cognition *not* involving a direct grasp of abstracta.

Truth. The second kind of agenda also has two forms.

A. One accepts the notion of mathematical truth, but constrains it by provability, either in principle or effective, so that it is guaranteed by the very nature of the case that we are able to know that provability conditions — as opposed to truth conditions unfettered — are satisfied whenever they indeed are. The point here is that the only bona fide notion of mathematical truth is one on which the truth of mathematical sentences or formulae *may not* transcend their assertability or verifiability by us, either in principle or, more stringently in case one surrenders to finitistic inclinations, effectively, say in polynomial time.

B. One proposes a substitute to the notion of truth, namely conservativity, so that our use of mathematical existence assertions gives us no grounds whatsoever for believing them to be true *under any reading of “true,”* i.e., say, whether or not truth might be transcendent with respect to provability, or whether or not “it is true that p ” is merely a meta-linguistic variant of p . The idea here is that an assertion containing no expressions that might be part of the non logical resources of a mathematical theory isn’t a consequence of a set of similar assertions plus some mathematical theory unless it is already a consequence of that set of assertions without the mathematical theory. In other words, the conclusions we get at when applying mathematics aren’t genuinely new for they are already derivable without recourse to mathematics *taken at face-value*, albeit in a more long-winded or cumbersome fashion. I think it is fair to say that in this Fieldian perspective,⁶ one in some important way *abandons* the original challenge. Or, if one addresses it still, it is only insofar that one strives to show that (i) truth isn’t at stake anymore as far as semantics is concerned and that (ii) the difference between someone who knows mathematics and someone who doesn’t is explained away in terms of abilities to carry out inferences — e.g. in physics⁷ — without arriving at anything genuinely new that couldn’t be obtained without the mathematics anyway. This isn’t an authentic way of reconciling mathematical truth with mathematical knowledge, but indeed a way of surrendering to a substitute for truth, given that mathematical knowledge is now knowledge *how* rather than knowledge *that*. A satisfactory account of mathematical knowledge *how* doesn’t *prima facie* require an explanation of how we manage to acquire true mathematical beliefs that nicely “reflect the facts”⁸ about remote abstract entities.

2. Benacerraf’s dilemma has played a key role in the development of these arguments and strategies and, consequently, in providing a model for what I’ve called the organizing principle of the practice of philosophers concerned with the philosophy of the language of mathematics.

The dilemma amounts to this: either we have a truth conditional semantics for the language of mathematics, or we have a reasonable epistemology that accounts for mathematical knowledge, *but not both* (in the first instance, “reasonable” might be understood in the ordinary sense of “fair,” “plausible” or “sensible”). Here is the relevant passage where Benacerraf makes this plain:⁹

It is my contention that two quite distinct kinds of concerns have separately motivated accounts of the nature of mathematical truth: (1) the concern for having a homogeneous semantical theory in which semantics for the propositions of mathematics parallel the semantics for the rest of the language*, and (2) the concern that the account of mathematical truth mesh with a reasonable epistemology. It will be my general thesis that almost all accounts of the concept of mathematical truth can be identified with serving one or another of these masters *at the expense of the other*. Since I believe further that both concerns must be met by any adequate account, I find myself deeply dissatisfied with any package of semantics and epistemology that purports to account for truth and knowledge both within and outside of mathematics. For, as I will suggest, accounts of truth that treat mathematical and nonmathematical discourse in relevantly similar ways do so at the cost of leaving it unintelligible how we can have any mathematical knowledge whatsoever; whereas those which attribute to mathematical propositions the kind of truth conditions we can clearly know to obtain, do so at the expense of failing to connect these conditions with any analysis of the sentences which shows how the assigned conditions are conditions of their *truth*.

* I am indulging here in the fiction that we *have* semantics for “the rest of language,” or, more precisely, that the proponents of the views that take their impetus from this concern often think of themselves as having such semantics, at least for philosophically important segments of the language.

This is how Benacerraf presented the dilemma in Atlanta on December 27, 1973 at a symposium on Mathematical Truth jointly sponsored by the American Philosophical Association (Eastern Division) and the Association for Symbolic Logic. Among the historical details that the unnumbered footnote in Benacerraf¹⁰ provides on the previous readings of various segments of the original version written between 1967 and 1968, it is worth noticing that Hartry Field and Mark Steiner feature are among those who commented on these early unpublished versions read in the mid-sixties at Harvard and Princeton (among other universities). Benacerraf’s article is only mentioned in an endnote in Field 1980,¹¹ Field remarking in his last chapter that although it has “overtseped the bounds of first-order logic,” his nominalism nevertheless “saves us from having to believe in a large realm of otherwise gratuitous entities [...] which are very unlike the other entities we believe in (due for instance to their causal isolation from us and from everything we experience) and which give rise to substantial philosophical perplexities because of this difference [e.g. Benacerraf’s dilemma, as the endnote makes clear].”¹² Before that, Steiner, addressing the challenge in a most direct way (as opposed to Field’s way *out* of the dilemma by way of a substitution of conservativity for truth) has defended a naturalistic approach to mathematical knowledge according to which our cognitive apparatus, equipped with the relevant perceptual and introspective resources, is able to generate true intuitive mathematical beliefs without requiring any kind of access to remote and abstract mathematical objects.¹³

In section II of an unpublished version of the paper dating from 1968, entitled “The problem” and which corresponds quite closely to section II of the published 1973 version entitled “Two conditions,” Benacerraf points out that:¹⁴

The interests I have in mind are two and these: A) Any account of mathematical truth must be recognizably an account of *truth*. [...] [T]here must be some general view of truth on the basis of which the property attributed to mathematical propositions when they are said to satisfy the conditions set down by a candidate for an account of truth is indeed truth. I will argue that we have only one such general account, Tarski's [...]. [...] My second requirement on accounts of mathematical truth presupposes that we have mathematical knowledge, and that such knowledge is no less knowledge for being mathematical. Since we are capable of knowing truths, an account of mathematical truth, to be acceptable, must be consistent with the possibility of having mathematical knowledge: the conditions of the truth of mathematical propositions cannot be such that it is impossible for humans to know that they are satisfied. This is not to argue that there cannot be unknowable truths — only that not all truths can be knowable, for we do know some. The minimal requirement, then, is that a satisfactory account of mathematical truth must be consistent with the possibility that some such truths be knowable. Actually, I will make a stronger requirement: that B) Any account of mathematical truth must be useful as part of an explanation of the existence of particular bits of mathematical knowledge. [...] [I]n mathematics, it must be possible to link up what it is for p to be true with my knowing that p . Though this is extremely vague, I think one can see how condition B tends to rule out accounts which satisfy condition A, and to admit those ruled out by A.* For a typical account satisfying A (at least in the case of number theory or set theory) will depict truth conditions in terms of conditions on objects whose nature, as normally conceived, renders them inaccessible to the better understood means of human cognition (e.g. sense perception and the like). The “combinatorial” accounts, on the other hand, usually arise from a sensitivity to just this fact and are hence almost always motivated by epistemological reasons. Their virtue lies in providing an account of the nature of mathematical truth based on the procedures we follow in justifying truth claims in mathematics: proof. It will therefore come as no surprise that *modulo* such an account of mathematical truth, there is little mystery about how we can obtain mathematical knowledge. We need only account for our ability to produce and survey proofs. However, squeezing the balloon at that point apparently makes it bulge on the side of truth: the more nicely we tie up the concept of proof, the more closely we link the definition of proof to combinatorial (rather than semantic) features, the more difficult it is to connect it up with the truth of what is being thus “proved” — or so it would seem.

* I see possible exceptions: for example, the class of views on which all of Mathematics is metamathematics and on which every mathematical sentence receives an interpretation via a truth definition. Views on which mathematics consist simply in turning a generative crank on a black box that prints out meaningless symbols are not even in the ballpark we are considering, for [“There are at least three prime numbers between 17 and 43”] would, on such views, either not be a mathematical statement, or would, at any rate, lack a truth-value.

The origin of the dilemma may be traced back to Benacerraf's dissertation, written under the supervision of Hilary Putnam and defended in Princeton in May 1960. Its concluding paragraph is telling in this respect:¹⁵

I conclude then that Logicism is mistaken. What I have termed its second thesis is certainly wrong, and, one might argue, so is its first thesis. Such an argument would hang on a determination of the line which marks the outer boundary of logic, a line I do not care to draw, for reasons already expounded elsewhere. This leaves us with the problem of giving an account of the precise nature of the relation between logic and mathematics or, if one prefers, between set theory and the rest of mathematics. I have done my best to indicate that it is not the part-whole relation. We are also left with the problem of accounting for the nature of mathematical truth, if indeed such an animal exists. There is a sense in which we would still be left with that problem even if we had accepted Logicism as fundamentally correct. To say that mathematics is really logic in disguise merely pushes the problem off onto logic. If logic includes set theory, the problem is particularly difficult. I don't even know of an adequate answer to the question when limited to the propositional calculus and quantification theory. I suspect that the animal in question (the nature of mathematical truth) will turn out to be a many-headed monster; it will have to be slaughtered and appropriately butchered into pieces which are sufficiently manageable to lend themselves to fruitful dissection. This, at least is what I have tried to suggest throughout.

The first thesis is that mathematics is reducible to logic or, in a broader form, that the reduction of arithmetic to logic provides arithmetic with a foundation.¹⁶ The second thesis is that mathematical propositions are true in virtue of the definitions of the concepts involved in them, or more specifically, that the analyticity of mathematical propositions is due to the explicit definability of mathematical concepts in terms of logical concepts, logical propositions being themselves analytic.¹⁷

It is worth noticing that Benacerraf has left the discussion of these two logicist theses on the side in the 1973 paper. He considers them only indirectly when discussing Quine's criticism of the notion of truth by convention because it is then clear that if all mathematical truths are definitional abbreviations of logical truths, mathematics is indeed true by convention.¹⁸ He remarks in 1973 that, the accounts of mathematical truth and mathematical knowledge being many, his twin restraints or strictures that an account of mathematical truth should follow Tarskian lines and that an account of mathematical knowledge should follow causalist lines "are intended to apply to them all."¹⁹ They should then apply to logicism as well, or at least to the Hempelian version favoured by Benacerraf in the dissertation. He does discuss logicism directly in the 1968 version of the paper, though, mentioning Russell *en passant*.²⁰

To put an end to these historical remarks on the legacy of Benacerraf's particular way of understanding the epistemological challenge to platonism, let us note that causal inefficacy has quite generally been understood as the key problem faced by platonists.²¹ It is thus deemed mysterious "how we concrete beings can know abstracta,"²² or "utterly inert numbers."²³ The emphasis is sometimes on the social and the dynamic: it is then judged puzzling how we, "evolving social organisms in space-time," could have access to "beasties," for "[t]hey toil not, neither do they spin."²⁴ Or again: "there is no interchange of energy-momentum between [mathematical entities] and the material world [which

includes us]”²⁵. It isn’t just that many anthologies mention this problem. The Benacerraf and Putnam anthology does, of course,²⁶ but also Dale Jacquette’s.²⁷ Some take it indeed as a starting point and claim that most of philosophy of mathematics is an attempt at solving the dilemma. Thus Hart:²⁸

Benacerraf’s dilemma is not the only philosophical problem about mathematics, but it is certainly basic to metaphysical and epistemological concerns about mathematics. The dilemma gives us a perspective from which to organize many, especially contemporary, philosophical discussions of mathematics. For if the dilemma is as real as it seems, and if the ontology of platonism is incompatible with the epistemology of empiricism [...], then consistency demands that at least one horn of the dilemma yield. So one question to ask about an essay on the dilemma is which horn it seeks to blunt, and how.

3. One way of looking at the matter is to *deny* that there is anything mysterious about the knowledge of the abstracta that feature in the truth conditions of the sentences of mathematical languages and that the consistency requirement, so construed, is misguided. One may then stick to the two insights we started with and look for an account of mathematical knowledge which does not rely on causal relations but still strives to explain how we acquire our mathematical beliefs and to account for their truth.

One possibility is to explain how mathematical knowledge is obtained and developed through intuition, as opposed to the so-called “better understood means of human cognition” favoured by causalist and reliabilist accounts.

There are of course many different construals of the notion to be found in the literature. I’ll be looking at Kant’s exclusively and only in relation to Parsons’ suggestion. (Note that Benacerraf considers a different account of intuition when rejecting Gödel’s thesis that we have a mathematical intuition of the objects of transfinite set theory. He assumes in this instance that Gödel, as a realist, is aware that a standard or Tarskian account of mathematical truth must be connected both with an interpretation of the referential apparatus of the theory and with an account of the connection between the objects known and our human cognitive resources, criticizing Gödel for the obscurity and superficiality of the analogy with sense perception, an analogy which provides no ground for a positive and convincing account of what we would call a mathematical intuition *de re* of the objects of transfinite set theory.)²⁹

For Kant, the only kind of intuition we have as humans is sensory or sensuous intuition³⁰. We only have intuitions of objects which are given to us, either through the perception of the senses (sight, typically), or in the imagination. But we also have pure or specifically mathematical knowledge. Since “[t]houghts without content are empty, [and] intuitions without concepts are blind,”³¹ a concept and an intuition of an object must converge or be combined in order for us to obtain mathematical knowledge.³²

To be sure, a few principles that the geometers presuppose are actually analytic and rest on the principle of contradiction... yet even these, although they are valid in accordance with mere concepts, are admitted in mathematics only because they can be exhibited in intuition.

Or again:³³

Even from a priori concepts, as employed in discursive knowledge, there can never arise intuitive certainty, that is [demonstrative] evidence, however apodeictically certain the judgment may otherwise be.

Kant is able to reconcile the view that intuition is of one kind, i.e. sensory, with the view that we have pure mathematical knowledge by pointing out that sensory intuition exemplifies the concept or instantiates it. Intuitions are singular representations that relate to objects immediately; concepts are general representations that relate to objects mediately, i.e. through or with the help of intuition.³⁴ For Kant, mathematics isn't about *suis generis* objects, but about instantiations of pure mathematical concepts, or at least, about possible instantiations of them. So it would seem that the problem we've started with cannot be one at all from the Kantian point of view for at least two reasons. First because there aren't any causally inert objects remote from ordinary sense experience to begin with, as indeed there are in the platonist picture. Moreover, since Kant also denies that we have intellectual or non sensory intuition, i.e. any special kind of faculty which would as it were come into play only when we are engaged in doing mathematics, he also implicitly denies that we have a special kind of *de re* intellectual intuition of what we've called "abstract objects" all along should such abstracta, *per impossibile*, exist.

Parsons nevertheless proposes a reading of Kant's puzzle about intuition and of Kant's solution to it which connects them to Benacerraf's dilemma. The puzzle is that we cannot intuit *both* spontaneously [*ursprünglich*] *and* a priori because "an intuition is such a representation as would immediately depend on the presence [*Gegenwart*] of the object."³⁵ Parsons argues that:³⁶

Kant's puzzle is related to the dilemma about mathematical truth posed by Paul Benacerraf in 'Mathematical Truth' [...]. According to Benacerraf, our best theory of mathematical *truth* (Tarski's) involves postulating mathematical objects, while our best account of *knowledge* requires causal relations of the objects of knowledge to us; but mathematical objects are acausal.

One can present Kant's problem as a similar dilemma: mathematical truth requires applicability to the physical world. But our best account of mathematical knowledge makes it rest on intuition, which requires the prior presence of the object. But this contradicts the a priori character of mathematics.

This is of interest because it is a form of the dilemma that does not require that the semantics of mathematics involve mathematical objects [...]. But of course it depends on other assumptions, in particular that mathematics is a priori.

One could be ungenerous with Parsons and complain that a puzzle which doesn't require that the semantics of mathematical languages involve quantification over abstract objects *may not be* a genuine variant of the original dilemma. The interest of the analogy, if any, must therefore lie somewhere else. What philosophers who take Benacerraf's dilemma

seriously have done is to take abstracta into consideration by what David Lewis has called the “Way of Negation.”³⁷ They have defined or identified such objects as those that *lack* the features possessed by paradigmatic concrete objects, i.e. objects which we ordinarily think of as “material” or “physical.” Three features are usually taken into consideration in this respect: spatiality, temporality and causal efficacy. Abstract objects are exactly those which do not occupy any region of space, of time, or of space-time, and make nothing happen. By doing so, these philosophers have looked at objects which are, by their very nature, abstract, if only for negative reasons, and *not* at possible empirical instantiations of mathematical concepts, as Kant does. Prima facie, then, the truth *vs.* causal inefficacy divide isn’t quite similar to the applicability *vs.* aprioricity divide. In other words, the thesis that what we’re committed to via semantics (abstracta) is incompatible with what some desideratum epistemology must satisfy (a causal or reliabilist account) — which is exactly what Benacerraf’s dilemma amounts to —, is quite distinct from the idea that what we’re committed to via semantics (applicability) is incompatible with what some desideratum epistemology must satisfy (an account of a prioricity) — which is what Kant’s puzzle is about.

I wish to argue that despite this, the dilemmas or puzzles are indeed similar in the sense that in both cases something we wish to preserve, namely the idea that mathematics taken at face value yields truths or consists in a body of truths, is in conflict with some epistemological constraint: an empiricist, either causalist or reliabilist in Benacerraf’s case, a transcendental one in Kant’s case. It might not be entirely preposterous, then, to consider the puzzles *conjointly* and claim that, should we wish to preserve truth, we would end up either with abstracta we cannot access or with the presence of objects which can’t be known *a priori*. There is, in this sense, a Benacerraf-Kant dilemma according to which a link must indeed be provided between what it is for a mathematical proposition to be true and our recognizing that it is true, so that either our true mathematical beliefs reflect the facts about mathematical entities or are causally connected to them (under the causal or reliability constraint), or our intuition doesn’t rely at all on the existence or actuality of the objects known (aprioricity constraint). On the view that there are indeed mathematical truths, the Kantian rejoinder to Benacerraf’s incompatibility claim is that the attribution to mathematical propositions of truth conditions we can clearly know to obtain when they do *succeeds* to connect these conditions with an analysis of the propositions which shows how the assigned conditions are conditions of their *a priori truth*. If this rejoinder is acceptable, the link between our cognitive faculties and the interpretation of the referential apparatus of mathematical theories which is severed in Benacerraf’s original dilemma, is restored in the Kantian solution to the Kantian version of the puzzle suggested by Parsons.

On the epistemological horn of Benacerraf’s original dilemma, we have the kind of causal theory of knowledge developed by Goldman,³⁸ Skyrms,³⁹ and Harman,⁴⁰ along with Grice’s causal theory of perception⁴¹ and, subsequently, Pitcher’s.⁴² Taken together and in a nutshell, these accounts of knowledge and perception yield the claim that for us to know

that p (or that p is true), there must exist some causal relation between us and “the referents of the names, predicates and quantifiers of $[p]$ ”⁴³ such that the very objects with which we are thus causally related are involved in the generation of our perceptual belief states in an appropriate causal way (this last part coming from Pitcher⁴⁴ and, ultimately, from Grice⁴⁵).

The causal theory of reference is sometimes added⁴⁶ so that we have the following schema: S knows that p (or that p is true) if and only if there is a causal relation between S and the referent of the names, predicates and quantifiers of p such that: (a) these referents are involved in the generation of S ’s knowledge (or justified belief) that p and (b) (i) the reference of the names, predicates and quantifiers is originally fixed by perception, and (ii) further uses of these linguistic items for referential purposes are all linked by a causal chain stretching back to the original fixing.

On the epistemic horn of Kant’s puzzle, we have an account of intuition as being of one kind, i.e. sensory, which therefore requires the prior presence of the objects so that they may be given to us, either through sense perception, or by recourse to our imagination. In Benacerraf’s dilemma, what would make mathematical knowledge both possible and reliable, i.e. causal interactions with the truth-conditions of mathematical existence assertions, is precisely what we’re denied if we also hold that such assertions are true. We have a contradiction in terms, more than a challenge. In Kant’s puzzle, what would make that knowledge possible, i.e. intuition, is what we’re denied if we also argue that such assertions (or the propositions expressed by them) are a priori.

4. Let us look at the Kantian solution in more details. Kant gives his solution to the puzzle about the possibility of a priori intuition in §9 of the *Prolegomena*. He also develops the solution in the first Critique, in the Transcendental Aesthetics where he begins by saying that there is intuition only insofar as objects affect our mind [*das Gemüt*], but since §9 is the passage Parsons relies on let us begin with it:⁴⁷

Therefore in one way only can my intuition [*Anschauung*] anticipate the actuality of the object, and be a cognition a priori, viz.: if my intuition contains nothing but the form of sensibility, antedating in my subjectivity all the actual impressions through which I am affected by objects.

“It is a nice question, Parsons remarks, just what this does to the characterization of intuition that gives rise to the puzzle.”⁴⁸ What it does, clearly, is this: under the assumption that mathematics is a priori, the (alleged) causal or material dependence of our intuition on the objects, or on their presence, either by means of sense perception or in the imagination, *has to go*. What we have is knowledge by intuition without any causal action on us (either on our sensory apparatus or on our minds) on the part of anything *we* (not Kant) would call an abstract mathematical object.

It would be unfair at this point to complain that an account of mathematical knowledge in terms of an intuition that contains *only the form of sensibility* typically depict[s] the truth conditions of mathematical statements “in terms of conditions on objects whose nature,

as normally conceived, places them beyond the reach of the better understood means of human cognition (e.g. sense perception and the like).⁴⁹ Time, as a pure form of sensory intuition and as an *a priori* condition of all phenomena in general⁵⁰ may not be the kind of thing that could ever fall under sense perception, for it is, on the contrary, what makes the reality of phenomena possible.⁵¹ If the Kantian claim that all we need in order to be able to add units is the inner sense of time⁵² is correct, we do indeed have a solution to the original puzzle, at least for the limited case of the arithmetic of natural numbers. The point here is that it would be misguided to argue that such an inner sense doesn't fit in the perceptual, causalist or reliabilist model, for it does provide what Benacerraf has claimed all along is missing from accounts of arithmetical truth, namely an explanation of how our justification for the truth of first order arithmetical claims involving natural numbers is obtained. It still is possible, of course, to criticize Kant's proposal and to reject the Kantian solution. My point here is only that it would be unfair to complain that Benacerraf's challenge or puzzle has not been properly addressed.

Although, as Parsons correctly remarks, Kant doesn't explicitly express a view about the intuition of mathematical *objects*, or about the referential apparatus of mathematical theories taken at face-value, an improved formulation of Parsons' suggestion which nevertheless remains true to Kant's idea that mathematical truth requires both applicability and a *prioricity* must insist that the appeal to *a priori* conditions and to pure forms of sensory intuition is compatible with an account of mathematical truth (as opposed to an account of mathematical provability or derivability). It would be unfair to complain at this point that it is compatible with it only provided that the candidate for an account of truth be one for *a priori truth*. What the dilemma or puzzle requires is an account of the knowability of mathematical propositions and this is just what the Kantian account proposes.

Parsons' suggestion in Parsons⁵³ nevertheless reverts to a non Kantian notion of intuition. Parsons⁵⁴ favours a view of arithmetical intuition which relies on ordinary perception at the most basic level. We start with a language containing a basic symbol ' | ' and we go on with arbitrary strings containing occurrences of this symbol in order to obtain the well-formed expressions of the language. We perceive by ordinary means a string of stroke-tokens: |, ||, ||| and so on, which is isomorphic to the natural numbers. At the next level up, we have singular propositions such as " | | is the successor of | ." Such singular propositions are about types. Parsons construes the propositional knowledge *that* | | is the successor of | as being justified by a single unique intuition.⁵⁵ It is also a general proposition, but only insofar as it has implications for *any* token. So we go from intuitions *of* to intuitions *that* because we take any instance of both the kind of situation and of the kind of assertion that correspond to it as being paradigmatic.

We also have general propositions about types, such as "Each string of strokes can be extended by one more," and such general propositions "have in their scope indefinitely many *different* types."⁵⁶ No actual perception or sensory input is available here, which would act as a warrant for the proposition. As Parsons notes, the idea that we have an intuition of

types “faces serious objections because of the timelessness, acausality or incompleteness of types as abstract entities.”⁵⁷ What we have to do in this case is to imagine an arbitrary string of strokes either as a vague object, or in such a way that its internal structure is entirely irrelevant to our new concern about types. Parsons remarks that such imaginings or *Gedankenexperimente* count as warrants (“verification” is the word he uses in that respect) of the general statement about types. Obviously they do if and only if certain conditions as to *how* an arbitrary string of strokes *must* be imagined are met, namely in this case, either vaguely or in such a way that the internal structure is “seen” or “understood” or construed in some way as irrelevant.

Parsons grants, at this point, that the problem about the timelessness of types is by nature epistemological. It is mysterious how we may justify truths about types through a perception of their tokens, i.e. truths which would hold for *any* token. We may have an intuition of the tokens but not of the types because types belong to the category of objects which fail to occupy a determinate region of space-time. It is striking, of course, how *un-Kantian* is the proposal. At the most basic level, our arithmetical knowledge relies on a kind of intuition which crucially depends on the prior presence of the objects. At the level of general propositions, we’re left with objects characterized as abstract by the Way of Negation.

Parsons’ proposal is of course quite different from, say, Maddy’s. (Maddy argues that we can acquire perceptual beliefs about sets of physical objects by construing the belief that, say, there are three physical objects at a given location (three eggs in a box) as a belief about a *set* of physical things and not about a *physical* aggregate.)⁵⁸ We do not have such direct intuition of abstracta (e.g. sets) in Parsons’ analysis. What we have in Parsons’ case is what he calls a “moderate position” to the effect that “intuition gives objects which form a model of arithmetic,” this model being “as good as any, both for the foundations of arithmetic and for applications.”⁵⁹

It is clear, on the Kantian side, that the limits of what we are able to establish as true in mathematics is determined by subjective conditions which are proper to us, as human beings. We are limited to that which can be represented a priori in intuition, i.e. space and time and change in time. We may then ask the following question: What would determine such limits according to theories which hold that we perceive mathematical objects directly so that the perception contains something contentual, utterly different from the *form* of sensibility? Such limits must also be linked to our particular cognitive constitution. But they must be so in a radically different way than the one envisaged by any transcendental philosophy.

Consider again the abstract object stroke-string-type. What we have here as warrants for the general propositions about types are intentional properties of the abstract object. The object is abstract because, although it might be instantiated, it cannot be located anywhere. It possesses properties such as vagueness or lack of internal structure insofar as it is an object of our *intuition* (through the imagination). One might say that it *necessarily*

possesses them *as intuitions*, in the sense that we may not intuit the object otherwise. In other words, the stroke-string type is arbitrary or vague or without structure insofar as it is untuited in this way by us. It isn't intrinsically so.

According to this picture, then, there is a link between the way in which we justify our claims about tokens by means of ordinary sense perception and the *Gedankenexperimente* we are legitimately appealing to when justifying claims about timeless types of such tokens. What one then needs, then, is an explanation of how such means of justification are related. It may furthermore be asked, of course, whether the tiered account is compatible with an account of arithmetical truth, but the question about the articulation of kinds of warrants must certainly be answered first.

Notes

1. Paul Benacerraf, "Mathematical Truth," unpublished draft of January 1968, 54 pages, typed with handwritten corrections, 1968; "Mathematical Truth," in *Philosophy of Mathematics - Selected Readings*, 2nd ed., ed. Paul Benacerraf and Hilary Putnam (Cambridge: Cambridge University Press, [1973], 1983), 403-420.
2. Charles Parsons, "Mathematical Intuition," in *The Philosophy of Mathematics*. Oxford Readings in Philosophy, edited by W. D. Hart (Oxford: Oxford University Press, 1996), 95-113.
3. This paper is based on various versions of a first segment of a much longer paper read at the Foundations of Mathematics and the Origins of Analytic Philosophy workshop held at the university of York in october 2010. The paper was extensively revised and a new version read at the *Institute for Social and Political Research* (ICSP) of the West University of Timisoara and at the *Institute for Philosophical Research* of the University of Sofia in may 2013. I wish to thank Michael Beaney, Ioan Biris, Boris Grozdanov, Lilia Gurova, Dan Isaacson, Marco Panza, Vesselin Petrov, Octavian Repolschi and Angel Stefanov for their comments and criticisms. I gratefully acknowledge the generous financial support of the *Centre National de la Recherche Scientifique*, of the *Institut d'Histoire et de Philosophie des Sciences et des Techniques*, of the University of York and of the West University of Timisoara. For Parsons, see "Ontology and Mathematics," *Philosophical Review*, Vol. 80 (1971): 151-176, and the article mentioned in note 2.
4. Charles Taylor, "Philosophy and its history," in *Philosophy in History: Essays in the Historiography of Philosophy*, ed. R. Rorty, J. B. Schneewind and Q. Skinner (Cambridge: Cambridge University Press, 1984), 20.
5. See Hartry Field, *Science Without Numbers - A Defence of Nominalism* (Princeton, New Jersey: Princeton UP, 1980), 1.
6. See Field, *Science Without Numbers - A Defence of Nominalism*.
7. Field, *Science Without Numbers - A Defence of Nominalism*; chapters 7 and 8.
8. Field's phrase in Field, *Realism, Mathematics and Modality* (Oxford: Basil Blackwell, 1989), 26.
9. Paul Benacerraf, "Mathematical Truth," in *Philosophy of Mathematics - Selected Readings*, 2nd edition, ed. Paul Benacerraf and Hilary Putnam (Cambridge: Cambridge University Press, [1973] 1983), 403-404.

10. Benacerraf, "Mathematical Truth," in *Philosophy of Mathematics - Selected Readings*, 2nd edition, 403.
11. Field, *Science Without Numbers - A Defence of Nominalism*, note 66 at page 126.
12. Field, *Science Without Numbers - A Defence of Nominalism*, 92, 98.
13. see Mark Steiner, "Platonism and the Causal Theory of Knowledge," *Journal of Philosophy*, vol. 70, n°3 (8 Feb. 1973), (1973): 57-66; and Mark Steiner, *Mathematical Knowledge* (Ithaca, New York: Cornell University Press, 1975).
14. Paul Benacerraf, "Mathematical Truth," unpublished draft of January 1968, 54 pages, typed with handwritten corrections. 1968, 15-18.
15. Paul Benacerraf, *Logicism, Some Considerations* (PhD dissertation, Ann Arbor, Michigan, Princeton University: University Microfilms Inc., Reference: 61-4511, 260 pages, 1960), 255-256.
16. see Benacerraf, *Logicism, Some Considerations* (PhD dissertation, Ann Arbor, Michigan, Princeton University, 1960), ch. I.
17. see Benacerraf, *Logicism, Some Considerations* (PhD dissertation, Ann Arbor, Michigan, Princeton University, 1960), ch. III.
18. See Willard Van Orman Quine, "Truth by Convention," in *Philosophy of Mathematics - Selected Readings*, 2nd ed., ed. Paul Benacerraf and Hilary Putnam [with minor corrections] (Cambridge: Cambridge University Press, [1936] 1983), 329-354.
19. Benacerraf, "Mathematical Truth," in *Philosophy of Mathematics - Selected Readings*, ed. Paul Benacerraf and Hilary Putnam (Cambridge: Cambridge University Press, 1973), 415.
20. Benacerraf "Mathematical Truth," unpublished draft of January 1968, 54 pages, typed with handwritten corrections. 1968: section IV, at pages 41-44. Section 2 of Benacerraf's "What Mathematical Truth Could Not Be - I," in Benacerraf and his Critics, ed. A. Morton and S. P. Stich, 9-59 (Oxford and Cambridge, Mass.: Basil Blackwell, 1996) offers additional relevant historical information, e.g. on Benacerraf's negative reaction to Quine and Ayer, going as far back as the nineteen fifties when Church and Gödel's ideological impurity was blatant in an academic world dominated by empiricism and logical positivism.
21. Following Field's remark that Benacerraf's challenge is to explain how our mathematical beliefs so well reflect the facts about them (Field, *Realism, Mathematics and Modality* (Oxford: Basil Blackwell, 1989), 29), it is generally assumed that there is no need to restrict our attention to causal mechanisms. Mechanisms that the outmoded causal theory of knowledge wouldn't countenance because they would deny the remoteness and acausality of mathematical objects might nevertheless "do the the job" and meet the challenge. Either that, or the antirealist programs are indeed facing equivalent worries, so that the Benacerraf challenge isn't tied to any particular view of the ontology (or metaphysics) of mathematics. There are important discussions of these two related issues by Clarke-Doane, Liggins, Linnebo and Shapiro. I cannot go into the details here. This is an occasion for another paper.
22. Dale Gottlieb, *Ontological Economy: Substitutional Quantification and Mathematics* (Oxford: Oxford University Press, 1980), 11.
23. Wilber Dyre Hart, edit., *The Philosophy of Mathematics*. Oxford Readings in Philosophy (Oxford: Oxford University Press, 1996), 4.
24. Paul Benacerraf and Hilary Putnam. eds., *Philosophy of Mathematics - Selected Readings*, 2nd edition. (Cambridge: Cambridge University Press, 1983), 31; This is almost a quote from Luke

- 12: 27 — “Consider the lilies how they grow: they toil not, they spin not [...]” — in the King James version.
25. H. Field, *Realism, Mathematics and Modality* (Oxford: Basil Blackwell, 1989), 19.
 26. See, in particular, sections 6 and 8 of the introduction to *Philosophy of Mathematics - Selected Readings*, 2nd edition (Cambridge: Cambridge University Press, 1983) at pages 21-27 and 30-33, respectively.
 27. See Dale Jacquette, *Philosophy of Mathematics - An Anthology* (Oxford: Basil Blackwell, 2002), 2-3.
 28. Hart, *The Philosophy of Mathematics*, 5.
 29. Benacerraf, “Mathematical Truth,” in *Philosophy of Mathematics - Selected Readings*, 2nd edition, 415-416.
 30. Immanuel Kant, *Immanuel Kant’s Critique of Pure Reason*, English translation by N. Kemp Smith (New York: St. Martin’s Press, [1781, 1787] 1965), B75.
 31. Kant, *Immanuel Kant’s Critique of Pure Reason*, B75.
 32. Kant, *Immanuel Kant’s Critique of Pure Reason*, B16; [Einige wenige Grundsätze, welche die Geometer voraussetzen, sind zwar wirklich analytisch und beruhen auf del Satze des Widerspruchs;... Und doch auch diese selbst, ob sie gleich nach bloßen Begriffe gelten, werden in der Mathematik nur darum zugelassen, weil sie in der Anschauung können dargestellt werden.].
 33. Kant, *Immanuel Kant’s Critique of Pure Reason*, A734, B762; [Aus Begriffen a priori (im diskursiven Erkenntnisse) kann aber niemals anschauende Gewißheit, d. i. Evidenz entspringen, so sehr auch sonst das Urteil apodiktisch gewiß seing mag.]
 34. Kant, *Immanuel Kant’s Critique of Pure Reason*, A320/B376-377, A68/B93.
 35. Immanuel Kant, *Prolegomena to Any Future Metaphysics*, English translation of *Prolegomena zu einer jeden künftigen Metaphysik die als Wissenschaft wird auftreten können* by L. W. Beck (Indianapolis: Bobbs-Merrill Publishing Company, 1783 [1950]), §8.
 36. Charles Parsons, “Mathematical Intuition,” in *The Philosophy of Mathematics*. Oxford Readings in Philo-sophy, ed. W. D. Hart (Oxford: Oxford University Press, [1979-1980] 1996), 99, note 12.
 37. David Lewis, *On the Plurality of Worlds* (Oxford: Basil Blackwell, 1986).
 38. Alvin Goldman, “A Causal Theory of Knowing,” *Journal of Philosophy*, vol. 64, n°12 (June 1967): 357-372.
 39. Brian Skyrms, “The Explication of ‘X knows that p’,” *Journal of Philosophy*, vol. 64, n°12 (June 1967): 373-389.
 40. Gilbert Harman, *Thought* (Princeton, New Jersey: Princeton Univeristy Press, 1973).
 41. H. P. Grice, “The Causal Theory of Perception,” *Proceedings of the Aristotelian Society*, supplementary volume 35 (1961): 121-152.
 42. George Pitcher, *A Theory of Perception* (Princeton, New Jersey: Princeton University Press, 1971).
 43. Benacerraf, “Mathematical Truth,” in *Philosophy of Mathematics - Selected Readings*, 2nd edition, 412.
 44. Pitcher, *A Theory of Perception*.
 45. Grice, “The Causal Theory of Perception.”
 46. see Benacerraf, “Mathematical Truth,” in *Philosophy of Mathematics - Selected Readings*, 2nd edition, 412.

47. Kant, *Prolegomena to Any Future Metaphysics*, §9.
48. Parsons, "Mathematical Intuition," 99.
49. Benacerraf, "Mathematical Truth," in *Philosophy of Mathematics - Selected Readings*, 2nd edition, 409.
50. Kant, *Prolegomena to Any Future Metaphysics*, §6.
51. Kant, *Prolegomena to Any Future Metaphysics*, §4.
52. Kant, *Immanuel Kant's Critique of Pure Reason*, [B182].
53. Parsons, "Mathematical Intuition."
54. Parsons, "Mathematical Intuition," sect. IV-VII.
55. Parsons, "Mathematical Intuition," 105.
56. Parsons, "Mathematical Intuition," 105.
57. Parsons, "Mathematical Intuition," 109.
58. Penelope Maddy, "Perception and Mathematical Intuition," *Philosophical Review*, vol. 89 (1980): 163-196; republished in *The Philosophy of Mathematics*. Oxford Readings in Philosophy, ed. W. D. Hart (Oxford: Oxford University Press, 1996) 126-131.
59. Parsons, "Mathematical Intuition," 111.

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Abstract: *After a quick autobiographical look back at some of the main cultural forces in my own early life, desiderata that perhaps any acceptable, rigorous theory of culture must satisfy are proposed. Following that, reaction to March's theory of culture is provided, which thereby points the way toward a more cognitively robust and realistic theory of culture that would make crucial use of formal logic.*

Keywords: *culture, theory, March's model, formal logic.*

TOWARD FORMALIZING CULTURE: FIRST STEPS¹

1. Pre-Analytic Thoughts on “My” Cultures

One of the great joys of my job, indeed my life, is the privilege of traveling to new places, to interact with folks — predominantly — on matters of the mind; specifically on whether (and if so, how) minds can at least in part be given to machines. Such travel of course exposes me to cultures very different than the one in which I was initially raised, and the subsequent one in which I have long lived.

I was raised, in my early years, in a hybrid culture: that of Norway on the one hand, and New York City and its suburbs on the other. Both my parents were Norwegian, spoke Norwegian at home, and, invariably fueled by Norway's distinctive cuisine, socialized with Norwegians — especially with Norwegians in Brooklyn, a borough of New York City, the Norwegian community of which has since, alas, evaporated. As to the cuisine, my mother was a devout devotee, and maintained not only that Norwegian food is preeminent, but that it is specifically better than what you can get in rival Sweden. I remember an early lecture from her as to why Swedish meatballs, though thought by many the world over to be peerless, are in actuality dreadfully drab and ridiculously small compared to their Norwegian counterparts. As to my father, he seemed to prefer the liquid side of my ancestral diet, especially powerful liquids.

At about the age of five, a second culture began to establish firm roots in my life, and gradually grew to overshadow the first. This second culture was *definitely* not Scandinavian: I remember realizing that my English-speaking classmates in 2nd grade

had only the vaguest idea where the Scandinavian countries were on the big, spinnable globe in our classroom, and indeed literally no idea what countries composed the relevant region. In fact, they believed that America had been discovered not by the man from whom I am descended (Leif Erikson), but rather five centuries later by a latecomer named ‘Columbus’ who serendipitously landed in the “New World” rather far south of New York. My classmates also celebrated only one independence day: July 4; May 17 meant nothing to them. But my family annually made the pilgrimage to Brooklyn for “our” parade on that May day.

So my second culture required no knowledge of Scandinavian geography and history, let alone Nordic drama² and war; rather, my second culture was firmly and at once New York Cityish, *and* corporate and technological. I say ‘corporate’ and ‘technological’ because the suburbs of the Big Apple, and Gotham itself, and indeed the entire Hudson Valley, have long been singularly boosted by the great powerhouse of the union of both concepts, in the service of fast-moving commerce. I remember vividly when IBM, the oldest still-standing American pillar of corporate information-processing prowess, moved its world headquarters to Armonk, the town outside of New York City that my parents (along with some other Norwegians from the City) had decided to move to. IBM’s move meant that the small ski area in Armonk disappeared (since it was on Big Blue’s new land), replaced with a tow-less hillside that we could now ski only if willing to climb for each descent. I remember feeling that the disappearance of even a small ski area was catastrophic, in no small part because, as you probably know, Norwegian culture includes a passion for skiing and snow, and the inculcation in my case had been thoroughly effective. But the culture of IBM, and the larger American techno-culture of which it was, and still is, in symbiosis, gradually enveloped me, and it may be no accident that today I still cherish the famous exhortation of Thomas Watson Sr.: THINK!.³ This became for a very long time the ubiquitous one-word slogan of IBM, and in many ways, given my still-vibrant interest in the marriage of human thinking on the one hand, and computing on the other, my early affirmation of and affinity for the slogan has persisted to this day.

I began by saying that I get to drop in on other cultures in the course of my job. An example is a most memorable trip I took a few years ago to the marvelous country of Romania, with my son. It was during that trip that I first began to ponder the possibility of formalizing culture. The specific catalyst of this reflection was the simple realization that Romanian culture includes knowledge of various propositions about Ceaușescu, and of communism generally. Just as anyone ignorant of the fact that the sun never sets in Tromsø in the summer is probably outside Norwegian culture, any adult ignorant of Ceaușescu and his dark rule is in all likelihood outside Romanian culture. Not only that, but it was clear to me that Romanian culture today is in no small part a function of Ceaușescu’s yesterday. Can such change be understood ahead of time, and managed, on the strength of a formal theory of culture?

This is certainly a gigantic question. One must no doubt start with smaller ones. For instance: Does culture consist merely in a collection of propositions, or is there more to

it? My experience in Romania answered this question on the spot, for it was clear to me there that not only is assent to certain propositions essential for membership in a culture, but certain actions are crucial as well. My hosts in Romania didn't just *happen* to address me by my title ('Professor') and family name; their behavior seemed to be the default in Romania. By contrast, in the States, whether I like or not, even youth who have never met me before, but know full well who I am and what I do for a living, routinely address me by my given name.

2. Desiderata Derived from Pre-Analytic Reflections

The previous section has been in significant part about cultures, considered briefly and impressionistically. But what *is* a culture, rigorously speaking? My goal is to answer this question from a logico-mathematical-computational perspective. That's quite a hyphenated mouthful. Put in simpler terms, I want to represent culture in formal logic. And, in addition, I want to implement that representation in computation, so that culture can be at least simulated, so that perhaps in turn a computing machine can, in some limited sense, have cultural intelligence. Such intelligence would seem to be a prerequisite for a machine able to teach culture, which is a specific applied aim of mine. (Figure 1 is a snapshot of a robot in my lab designed to teach students the culturally rich Chinese tea ceremony.) A second aim is one I've already divulged: the engineering and use of machines with cultural intelligence that can predict and manage cultural change.



Figure 1. RAIR Lab Robot Teaching the Chinese Tea Ceremony. (The engineering here is made possible by Dr. Naveen Sundar Govindarajulu, working with Michael Garber-Barron and Dr. Mei Si. Funding provided by RPI.)

Put in different terms, my project falls under both logic-based artificial intelligence⁴ and computational cognitive modeling⁵. According to the methodology propounded in these and other such publications, individual cognizers, whether of the human or machine

variety, are conceived as believing and knowing propositions about their environments, as reasoning over these propositions, and as agents that perform culturally appropriate actions in these environments. In the case of the tea ceremony, the difference between appropriate and inappropriate actions is so tangible and clear that a robot can process the difference, and educate humans accordingly. Of course, the robot in Figure 1 has no general human-level sense of what culture is, at all. But that doesn't mean the robot can't be very pedagogically useful.

Another important part of my methodology is an emphasis on proof. In general, "results" in cognitive science are almost invariably not in the form of theorems; that, in my view, is most unfortunate, since the absence of theorems means that very little is ever settled to the point of not only consensus, but verification⁶. I suspect that physics is in no small part successful because in large measure it is piloted by those who discover and communicate proofs.

But where to start in search of a general theory of culture that could be imparted to a robot, and that is ripe for progressing on the shoulders of proof? My first step is confessedly naïve: namely, make some observations about my own experiences. I started to do that in the previous section, which ended with the observation that part of culture is purely propositional, while part pertains to certain customary behaviors; and the distinction has been made in the present section as well. For example, with respect to IBM, its culture still includes a deep optimism about the efficacy of information-processing technology to make the world a better place (propositional), and it once included a firm adherence to the sartorial rule for men that required wearing a tie with a white shirt (behavior). Let us try to bring things into clearer focus, by asking and answering the following question: In light of my informal remarks, which I believe would be generally echoed by anyone seriously reflecting upon their own culture, what desiderata, informally expressed, would apparently need to be satisfied by any formal account of culture? The following list seems to me to be quite conservative and accurate, and includes categories that I claim any theory of culture must accommodate.

The Real: This is simply a set of propositions that sums up all that holds. The set therefore includes that $2+2=4$, that Earth is spherical, that human beings exist, and Goodstein's Theorem, and so on *ad infinitum*.

The Book: Each culture can be said to have a veridical — as I shall call it — *Book*. The Book is composed of certain true propositions. It is a fact that Norway, in the summer, is — as it is said — "the land of the midnight sun." (Even the southern tip, where most of my family resides, in summer, never really gets dark, as I remember learning firsthand as a little child lying wide awake in disbelief in the town of Lyngdal, in the middle of the night.) The Book contains certain historical propositions as well. In theory, through time, the Book can only get larger: nothing can be retracted from the Book. The Book is a proper subset of the Real.

The Hope: Whereas the book corresponds to reality, what I call the *Hope* need not. But at least most members of the culture in question nonetheless believe that all the propositions in the Hope hold. Though I do firmly believe that Ibsen is a truly great dramatist, it may not be the case that he is the equal of Shakespeare, yet that he is in my experience believed by more than a few Norwegians. And though I do think the part of Grieg's oeuvre that taps directly into Norwegian folk songs is breathtakingly beautiful, it may not be the case that Grieg has outdone Mozart. But one can "hope" that such propositions hold, if one is Norwegian. The Hope includes less literary propositions: One time when my mother complained about my purchase of a Volvo automobile, and I retorted that, well, Norway doesn't make any cars, she instantly asserted the subjunctive that if Norway *were* to make cars, I could be sure that they would be much better than Volvos and Saabs from Sweden. Her assertion here is a mundane member of the relevant Hope, for her. The Hope is somewhat person-relative in a given culture, and can shrink and expand through time: propositions can be dropped, and new ones can be added. This is of course a gradual process.

The Habits: I'm an habitual skier. As mentioned, that is more than consistent with being a traditional Norwegian: at least in the younger years, it's a prescription. There are obviously analogues in other cultures; indeed, in *every* culture. What I'm calling "habits" includes tea ceremonies in China, consuming aquavit with fish in Norway, or the appreciation of Pálinka, generous glasses of which I was introduced to during my aforementioned trip to Romania. Habits include customs. Like the Hope, the Habits are subject to change through time, and some members of the class can in fact fade away.

The Inculcation, or Not: One doesn't instantly become a member of a particular culture: membership requires an education, and a gradual one at that. Someone had to tell me that Leif Erikson was the "real" discoverer of America. I had to learn how to ski. Someone had to provide traditional Norwegian sweaters to me, and explain the historical basis of the distinctive patterns woven into them. And so on. Of course, sometimes there is rejection, on the part of members of a culture, of propositions in the Book (which is a bad idea, and often irrational: the Book, remember, is veridical), and/or of propositions in the Hope. This is why I say 'or Not.' For instance, I was never convinced that the Swedes are bad automotive engineers, or that the many dishes in their diet are across the board inferior to the counterparts found in the cuisine of their neighbors to the West. Hence I rejected some members of the Hope.

The Reasoning: On the cognitive side of culture, if the pre-analytic data I'm seeking to mine is a sound guide, there is more than knowledge and belief: there is also, connected to this knowledge and belief, *reasoning*. This reasoning comes in various forms. Most hopes are defended with reasoning. For instance, I remember challenging my mother's assertion that Norway won World War II for the Allies. She proceeded to present an argument to the effect that, were Hitler to have achieved an ability to build and use nuclear weapons, he would not have been defeated (first premise), and — here the second premise — it was

a group of Norwegians who prevented him from reaching this capability.⁷ Therefore, she concluded (with at least some tongue in cheek), Norway did in fact win WW II. Of course, reasoning is applied in a seemingly infinite number of ways in association with the Book and the Hope.

I do not pretend that this is an exhaustive list; I assert only that some of the chief dimensions of culture are here pointed to, albeit pre-analytically. And I gladly admit that much more needs to be said about each category in the list, even at the informal level. For instance, religious views are a very important part of the Hope, in many cultures. Even the tea ceremony the robot in Figure 1 (partially!) understands is wrapped up with, indeed has its historical roots in, Buddhism. In fact, my goal of understanding culture, formally and computationally, and of enabling a machine to achieve a degree of this understanding as well, is motivated by a desire to model the clashing of cultures specifically in the area of religion (since so much conflict seems to arise out such clashes), and to use modeling and simulation to find futures in which such clashes can be resolved, and in some cases outright prevented. This of course means that mathematizing culture will require mathematizing religion, and ethics (since in most cultures that have religious aspects, morality is tied to those aspects); the road ahead is not easy, and for those not sharing my Leibnizian confidence that all of cognition can be formalized in logic, it will doubtless appear to be one that simply cannot be traveled.⁸

3. March's Non-Logicist Model as a Starting Point

I pointed out above that culture involves not just countries, regions, and cities, but also corporations, such as IBM. My suspicion is that corporate culture is probably a more reasonable place to gain a formal foothold than the culture of an entire country or region. The latter scale is dauntingly complicated. Fortunately, it turns out that some rather clever thinkers have considered how corporate culture might be formalized, at least to a degree,⁹ and we can consider how the work of such thinkers measures up to the desiderata listed in the previous section. Chief among the thinkers in question is March,¹⁰ who offers a formal, and highly influential, if inexpressive, model that can be summarized as follows.¹¹

First, **reality R** is represented as a vector (d_1, d_2, \dots, d_m) . Each d_i represents a “dimension” of reality, and has a value of 1 or -1. We assume that every organization includes a set of n **agents** i_1, i_2, \dots, i_n . **R** constitutes a kind of “ground truth,” and the values of its dimensions are independent of the belief of agents. There is also in March's scheme the concept of the **beliefs** of agents with respect to the dimensions of reality at a given time t_k , which I write as $b(i_p, d_j, t_k)$, and which has a value of 1, 0, or -1 through time. In addition, every corporate culture is assumed to have an **organizational code** of received truth, which includes likewise a value of 1, 0, or -1 for each of $c(i_p, d_j, t_k)$.

March makes this model dynamic by first legislating that the code can affect the beliefs of agents. We can formulate simple update rules to capture March's ideas; first:

$$\begin{aligned} \text{If } c(i_j, d_j, t_k) = 0, \text{ then } b(i_j, d_j, t_{k+1}) &= b(i_j, d_j, t_k). \\ \text{If } c(i_j, d_j, t_k) = 1/-1, \text{ then } b(i_j, d_j, t_{k+1}) &= 1/-1. \end{aligned}$$

But these conditionals only regiment change in the direction of the code to agents. What about the other direction? How can the beliefs of agents impact the code? The second part of March's updating machinery includes that only "superior" agents can cause a change in the code. Superior agents are those who have beliefs that match reality on more dimensions than the code does. We can invoke a simple counting function C^1 that computes, for the relevant inputs (viz., the values of b and c) whether a given agent does exceed the veridicality of the code at any timepoint t . We invoke a second counting function C^2 that yields 1 for a given $c(i_j, d_j, t_k)$ if the majority of superior agents differ in their value for $b(i_j, d_j, t_k)$. Given this machinery, the update rule for the code requires that the values of a given $c(i_j, d_j, t_k)$ be changed to match those of the differential beliefs of the superior agents. It is thus seen that March can build some simple simulations, by picking a starting configuration.¹²

4. Preliminary Steps Toward Expansion and "Logification" of March's Scheme

Unfortunately, as even casual study of my opening informal remarks about culture make plain, March's scheme is inadequate. The inadequacy becomes even starker when one places March's scheme alongside the desiderata listed above. I now sketch some of the steps that need to be immediately taken in order to address these inadequacies, by sketching some simple logico-mathematical-computational machinery.

To begin, reality, \mathbf{R} , on March's model, has no declarative content. This is unacceptable, since, necessarily, to say that there is such a thing as external reality is to say that such-and-such holds. We thus make a "simple" change: instead of talking of a vector of dimensions, we simply talk of a vast collection of formulae $\langle p \rangle$, each of which represents some proposition p in \mathbf{R}' , which represents all that is in the Real. Ultimately, the formal language underlying \mathbf{R}' will be dizzyingly rich and expressive, and certainly no such thing has yet to be discovered and specified.¹³

As to the beliefs of agents on March's scheme, we will need to make another change in order to head in the direction of doing justice to the Book and the Hope: at a minimum, we shall need to say that beliefs have targets: namely, propositions. We need to do this because March's framework is here again bereft of declarative content. Instead, then, of a belief $b(i_j, d_k)$ simply returning a value of 1, 0, or -1, a belief will need to be an operator B ranging over an agent i_j who is a member of the culture in question, a formula $\langle p \rangle$ believed by that

agent, and other things that are beyond the scope of the present paper (e.g., a timepoint at which the belief is held). We will thus write such things as $B(i_j, <p>)$, which is certainly in line, as many readers will note, with formulas in epistemic logics. To model the Book, the objects of belief are in fact elements of the Real, and in addition the Book includes knowledge, which will be captured by formulae having the general form $K(i_j, <p>)$.

But what about dynamism? How is that to be handled? This is certainly a challenge, but one that needs to be met. For our pre-analytic data unmistakably implies that as time flows on, changes ensue: Hopes and Habits, after all, come and go. In addition, while March's framework includes no provision for communication between agents, such communication is obviously at the heart of culture. I would not be a member of a culture without the human communication between myself and other humans in that culture.

Given this observation, and given the methodology to which I am committed, a number of prominent pre-existing formalisms present themselves for consideration. For example, *dynamic* epistemic logic¹⁴ warrants consideration. In this family of logics, what agents believe and know can change through time in principled fashion on the basis of what is communicated. Unfortunately, the engine for dynamism that one finds in pre-analytic data about culture involves not just flat, stark communication of information (*announcements*, as they are often called in dynamic epistemic logic), but argumentation and discussion (as the example given above relating to Swedish versus (hypothetical) Norwegian cars reveals). Something much richer than dynamic epistemic logic is clearly needed.

To model interaction among agents in a culture, I am inclined to favor using the dynamic model of argument and counter-argument pioneered by John Pollock,¹⁵ but even sketching this approach is beyond the range of our current prolegomenon. In addition, my approach to formalizing culture requires that communication between human beings be ultimately cashed out as communication of information expressed in logic. But about these tricky topics I will say no more, and instead now end with a brief conclusion.

5. Concluding Remarks

This short paper has explored just the first propaedeutic steps toward a full computational formalization of culture, in order to ultimately not only slightly advance the science of culture, but to eventually enable relevant engineering (e.g., of technology for teaching culture, for predicting the effects of actions that impact a culture, etc.). What are the next steps?

First, an argument-centric set of mechanisms for agents to affirm or deny propositions in the Real and the Book must be designed. This will allow members of a given culture to have changing epistemic profiles through time, as a function of communication in natural language.

Second, the application of these mechanisms must be driven by, and integrated with, the goals and plans of agents, including goals and plans in play in multi-cultural “markets.” Such mechanisms are completely absent from March’s scheme, but they are clearly crucial, as the pre-analytic review herein reveals. Whether it’s a company like IBM, or a country like Norway or the U.S. or Romania, agents not only perform actions given to them in rigid scripts, but they take actions in order to serve their more general goals. Hence, a planning formalism must be established.

With these two steps taken, it will be time to implement a simulator able to test hypotheses about how a culture is impacted by certain “inputs.” In the (very) long run, it might therefore be possible to predict what will happen to cultures as a result of major changes, such as Romania’s rapid change from dictatorial communism to a more free-market economy. Such predictive power would be the handmaiden of attempts to secure certain futures over others, by certain means over others.

Notes

1. I am indebted to seed funding from RPI for the purpose of exploring the possibility of AI systems able to “understand” and teach culture. This funding has helped launch the work of concretizing some of what is adumbrated in the present paper. Scare quotes are used because I claim to have shown, e.g. in S. Bringsjord, *What Robots Can’t and Can’t Be*, that — in light of my improved versions of Searle’s Chinese Room Argument (CRA) — no computational system can genuinely understand anything. For a further improved CRA, see S. Bringsjord and R. Noel, “Real Robots and the Missing Thought Experiment in the Chinese Room Dialectic.”
2. I remember from my earliest days a deep homage to Ibsen at home, and perhaps an even deeper veneration for Grieg, probably because he incorporated and elevated some of the very same folk music my mother played (piano and accordion).
3. Thomas Watson Sr. was CEO of IBM from 1914 to 1956, during which time computing was wed to punched card tabulation. For basic info, including some regarding the distinctive culture Watson created, see http://en.wikipedia.org/wiki/Thomas_J._Watson.
4. S. Bringsjord, “The Logicist Manifesto: At Long Last Let Logic-Based Artificial Intelligence Become a Field Unto Itself,” *Journal of Applied Logic* 6.4 (2008b): 502–525.
5. S. Bringsjord, “Declarative/Logic-Based Computational Cognitive Modeling,” in *The Cambridge Handbook of Computational Psychology*, ed. R. Sun (Cambridge, UK: Cambridge University Press, 2008a), 127–169.
6. For more on this defect in cognitive science, see S. Bringsjord “Declarative/Logic-Based Computational Cognitive Modeling.”
7. One can find some information here: http://en.wikipedia.org/wiki/Norwegian_heavy_water_sabotage. There are a number of renditions of these heroics in popular media; e.g., see the film *The Heroes of Telemark*. For greater accuracy, and for information on survival skills that in fact still a not-insignificant part of Norwegian culture, see Mears, *The Real Heroes of Telemark: The True Story of the Secret Mission to Stop Hitler’s Atomic Bomb* (London, UK: Hodder & Stoughton, 2003).

8. For a step in the direction of such daunting formalization, see S. Bringsjord and J. Taylor, “The Divine-Command Approach to Robot Ethics.” It is probably important to note that Simon, one of the founder of modern AI, and a nobelist in economics (and as it happens a collaborator with March), deserves much credit for at least suggesting that businesses can be computationally simulated. Ultimately it is this suggestion of Simon’s, combined with machine-reasoning in formal logic (another trajectory that Simon launched via his famous logic theorist program of 1956), that was rattling around in the back of my mind as I spent time in Romania. For Simon on computational simulation of organizations, see J. March and H. Simon, *Organizations*. Information regarding logic theorist can be obtained at http://en.wikipedia.org/wiki/Logic_Theorist.
9. J. March, “Exploration and Exploitation in Organizational Learning.” *Organization Science* 2.1 (1991): 71–87.
10. I provide more notation than that given in J. March “Exploration and Exploitation in Organizational Learning,” in order to ease exposition. My syntax in no way extends the semantics of J. March, *ibid.*.
11. To ease exposition, I leave aside the probability parameters in J. March, “Exploration and Exploitation in Organizational Learning.”
12. For a glimpse of what kind of formal language will be required, see S. Bringsjord and N. S. Govindarajulu, “Given the Web, What is Intelligence, Really?.” *Metaphilosophy* 43.4 (2012): 361–532.
13. H. van Ditmarsch, W. van der Hoek and B. Kooi, *Dynamic Epistemic Logic* (Berlin: Springer, 2007).
14. J. Pollock, *Cognitive Carpentry: A Blueprint for How to Build a Person* (Cambridge, MA: MIT Press, 1995).

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Abstract: *The study of the mind has to grapple with both the unconscious and the conscious. While the phenomenon of cognitive penetration has already been explored especially in connection to the modularity of perceptual and cognitive processes, the phenomenon of cognitive-phenomenological penetration, the penetration within the stream of consciousness of the phenomenological fabric of experiences by the phenomenology of thought, has not been given much attention thus far. In this paper, I focus with analytic-phenomenological methods on cognitive-phenomenological penetration as a phenomenon whereby the texture of non-cognitive phenomenologies gets modified by cognitive phenomenologies. I present a metaphysical model of cognitive-phenomenological penetration and argue that it can be used to support a non-modular view in the metaphysics of the conscious and unconscious mind, to confirm the hypothesis that there exists a sui generis phenomenology of thought, and to defend the view that cognitive-phenomenological penetration has a pivotal role to play in appraisals of rationality, irrationality, and cognitive distortions at the intrasubjective, intersubjective, and extra-mental levels.*

Keywords: *cognitive-phenomenological penetration, metaphysics of the conscious and unconscious mind, phenomenology of thought, cognitive distortions.*

COGNITIVE-PHENOMENOLOGICAL PENETRATION

1. The study of the architecture of the mind is often divided in two: (i) the study of the subpersonal and (ii) the study of the personal. At the (i) level we find studies on the underpinnings of cognition and every other mental going-on, such as perception or action. At the (ii) level we find studies on the conscious dimension of cognition and every other mental going-on, such as perception and action. One widespread view about how we might approach the (i) level is via modularity, either in a reduced format (only some mental goings-on can be dealt with in this way) or in an expanded format (all or almost all mental goings-on can be dealt with in this way), the latter view being often dubbed as that of “massive modularity.” The question of *cognitive penetration* more often than not arises on the background and in the framework of the study of the (i) level, concerning systemic influences, of a causal or other nature, between subpersonal modules. In this paper I am concerned with the possibility of a hitherto apparently unexplored phenomenon, cognitive penetration at the (ii) level. Views on the structure and dynamics of the (i) level indelibly influence views on the structure and dynamics of the (ii) level. It is something close to a *datum* that phenomenologies, the qualia of the various mental states that we undergo and that we consciously experience, are modular, at least at a stage prior to their coagulation and interaction in the unity of consciousness. If we pause our stream of consciousness at

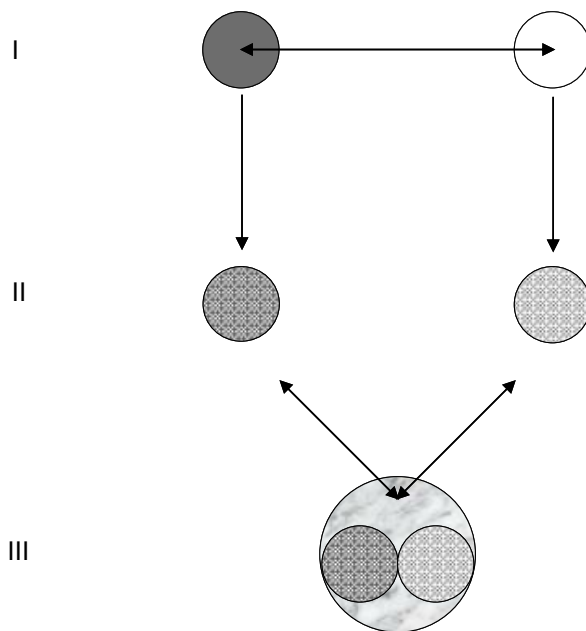
various points in time and self-analyse it, we seem to find and routinely take as normal a complex of sensory-perceptual phenomenologies and cognitive phenomenologies, such as a phenomenology of thinking that p or a phenomenology of intending to ψ . These phenomenologies are not normally disparate phenomenologies, the case is rather that they unite in a perspective over the stream of consciousness, allowing the unfolding of and intertwining in more complex mental states the mereology of which cannot *post facto* be easily analysed as a constitution of simple components and rules of combination of those components. Yet, if we could catch in slow motion the mental dynamics in question, there would seem to be an initial stage of conscious or phenomenological modularity, mirroring perhaps a more primitive form of modularity, the modularity at the (i) level. The question of the connection, if any, between the (i) level and the (ii) level has not been itself explored to a great and satisfactory extent. The study of the mind has often been confounded, maybe due to methodological and sociological reasons, with the study of the (i) level, thus leaving outside its scope the proper study of the other half. The progress made on elucidating the mechanics of the (i) level and the frameworks of thought and conceptualization tried for this purpose and taken to the ends of their potential have often been transferred, with *mutatis mutandis* clauses, to the incipient study of the (ii) level. Yet, it is not clear whether this is adequate or apposite for the study of the (ii) level, where insights of a different nature might be needed. Each of the following three lines of inquiry holds some promise, but only two of them might be worth pursuing further: 1. there is a structural isomorphism or homomorphism between the (i) level and the (ii) level, 2. there is no structural morphism of any kind between the (i) level and the (ii) level, and 3., irrespective of whether 1 or 2 are correct, there is a connection between the (i) level and the (ii) level, allowing some sort of communication or transfer of information. If 1 is worth pursuing further, then views on the (i) level of the architecture of the mind bear on views on the (ii) level of the architecture of the mind. A view according to which there is cognitive penetration at the (i) level might thus correspond to a view according to which there is a form of cognitive-phenomenological penetration at the (ii) level and similarly if there is no cognitive penetration at the (i) level. If 2 is worth pursuing further, then there could in principle be four views with respect to the cognitive penetration question: 2.1. no cognitive penetration at the (i) level and no cognitive penetration at the (ii) level, 2.2. cognitive penetration at the (i) level and no cognitive penetration at the (ii) level, 2.3. no cognitive penetration at the (i) level and cognitive penetration at the (ii) level, 2.4. cognitive penetration at the (i) level and cognitive penetration at the (ii) level. The similarity encountered in 2.1. and 2.4. is, according to this line of inquiry, merely accidental. An independent way of establishing the truth of either 2.3. or 2.4. could be taken as a mark of the truth of 2. But the line of inquiry suggested here is more of an *a priori* kind. In this paper, I am not going to focus on the question of cognitive penetration at the (i) level. Instead, I am going to focus on the question of cognitive penetration at the (ii) level, leaving open the 1 and 2 possibilities regarding the macro-structure of the two levels. I do think that 3, regarding the connection between the

two levels, is another line of inquiry worth pursuing independent of the macro-structure of the two levels and that insights into the nature of the connection in question might shed a decisive light over the macro-structure issues. I also do think that positive, optimistic views over the exploratory power of the (ii) level, of mapping and charting the contours and goings-on at the (i) level, hold much promise. In a quasi-psychodynamic view, it is the (i) level that has the capacity to overflow the (ii) level, but it is only via the power of the (ii) level that the raw material at the (i) level can be transformed into material for the (ii) level.

2. I am thus interested in this paper in the question of cognitive-phenomenological penetration, a penetration of non-cognitive phenomenologies by cognitive phenomenologies. The possibility itself of such phenomena in mental ontology depends upon a background that shuns the modularity or massive modularity view at the (ii) level. This modularity overhaul is to be expected at all stages of the phenomenological dynamics. It might be the nexus of the frame problem itself as a problem for modularity or massive modularity views at the (i) level. It arises in a framework of thought according to which phenomenological interactions and combinations are widespread in our mental lives, concerning not only cognitive states and non-cognitive states, but also non-cognitive states in relations to each other. We are often reminded of phenomena such as synaesthesia or cross-modal influences, reverberating at the (ii) level *par excellence*. Synaesthesia and cross-modal influences can be taken as paradigms of inter-phenomenological penetration. They are real, palpable phenomena that are not dependent upon unstable reporting or confusion or other vagaries in the study of the stream of consciousness. The question arises whether such phenomena are due to abnormal wiring at the (i) level or whether they can be emulated at the (ii) level irrespectively of the wiring, be it normal or abnormal, at the (i) level. It is a prediction of the framework of thought according to which phenomenological interactions and combinations are widespread in our mental lives that such emulations can take place simply through alterations in the stream of consciousness, at the (ii) level. But penetrations between non-cognitive phenomenologies are not the most interesting and ultimate level of phenomenological penetration. That is the domain of cognitive-phenomenological penetration, the kind of penetration in the stream of consciousness capable of modifying the texture itself of non-cognitive phenomenologies, transforming them into cognitive phenomenologies. In the next two sections of this paper I am going to present a metaphysical model of cognitive-phenomenological penetration. I sometimes use a more metaphorical language (e.g., “permeation” instead of “penetration”) and I see the view put forward as a form of “mental alchemy” at the (ii) level. The endeavour is an exercise in the mental ontology of the stream of consciousness and the stream of thought, starting from a simple distinction between the content of a thought and the colourings of thought (inner speech, mental images, emotions, epistemic feelings, and any other mental states, events, or processes that might get entangled with the content of a thought). Further on, it is an exercise that may hold the key for solving the debate between proponents

and opponents of a *sui generis* phenomenology of thought as a self-standing entity in the mental ontology of the stream of consciousness in favour of the proponents.

3. Let us consider, as abstractly as possible, what I take to be the metaphysic of the phenomenological interaction between the phenomenology of the colourings of the depurated cognitive content of a thought and the phenomenology of the depurated cognitive content of that thought:¹



I take levels I-III to reflect a *temporal* succession of the processes taking place: “phenomenological interaction,” “transmutation,” and “phenomenological blending.” Yet, I do not want to claim that the succession is itself experienced by a subject of experience (not typically, at least). We are enquiring here into what may be called ‘the nature of phenomenology’, and it may well be the case that the processes involved in the birth of certain phenomenological units that are present in experience are not phenomenologically transparent to the subject. Introspection may not typically reveal the genesis of the phenomenological units that are present in experience. There may be a phenomenology-entering threshold beneath which mental life may be teeming with processes such as those discussed here: “phenomenological interaction,” “transmutation,” and “phenomenological blending.” This threshold may vary, depending on what I called in chapter 1 “the acuity of consciousness,” making some states hypo-conscious, others normally conscious, and yet others hyper-conscious. In any case, the upshot is that the temporal succession reflected in the transition from level I to level III might be a temporal succession at the level of the nature of phenomenology, and not at the level of phenomenology itself, as it is consciously experienced by a subject of experience.²

At level I, we have the phenomenology of a thought colouring (let us symbolize it with ‘ ξ ’) in isolation, as well as the *sui generis* phenomenology of the depurated cognitive content of a thought in isolation (let us symbolize that thought, consisting in its depurated cognitive content, with ‘ τ ’). When the subject of experience thinks τ and when τ “recruits” ξ , there is an initial process of “phenomenological interaction” taking place between the phenomenologies of τ and ξ . The process of “phenomenological interaction” makes it such that both the phenomenology of τ and the phenomenology of ξ undergo a process of “phenomenological transmutation” that transforms them into the phenomenology of τ “permeated” by the phenomenology of ξ (synonymously, the phenomenology of ξ “embedded” into the phenomenology of τ), respectively the phenomenology of ξ “permeated” by the phenomenology of τ (synonymously, the phenomenology of τ “embedded” into the phenomenology of ξ). The resulting phenomenological units, at level II, although continuants of the phenomenological units at level I, the phenomenologies of ξ and τ , are both numerically and qualitatively different from the phenomenologies of ξ and τ . Although similar to the phenomenological units at level I, the phenomenological units at level II are nevertheless not qualitatively identical with their predecessors at level I.

When the subject of experience thinks τ and when τ “recruits” ξ , after the initial process of “phenomenological interaction” leading to the “phenomenological transmutation” of the initial phenomenological units, there is a further process of “phenomenological blending” taking place, leading to a “phenomenological blend” comprising the phenomenology of τ “embedded” into the phenomenology of ξ and the phenomenology of ξ “embedded” into the phenomenology of τ . The “phenomenological blend” is nevertheless something over and above the two phenomenological units that “blend” into it. The phenomenology of τ is altered by the phenomenology of ξ when the two get into contact. Similarly, the phenomenology of ξ is altered by the phenomenology of τ when the two get into contact. When the resulting phenomenological units merge, they give rise to a more encompassing phenomenological unit that contains them, but that is also something over and above them. This new phenomenological unit is graphically depicted at level III in the diagram. It represents the phenomenology of τ “coloured” by the phenomenology of ξ , the phenomenology of a thought “coloured” by such mental entities as a bout of inner speech, a mental image, an emotion, or an epistemic feeling.

I have graphically depicted only the “phenomenological interaction” between the phenomenology of a depurated cognitive content of a thought, τ , and the phenomenology of a thought colouring, ξ . Nevertheless, in most typical cases in which thoughts engage thought colourings, there are “phenomenological interactions” between the phenomenologies of many depurated cognitive contents of thoughts and many thought colourings. If we restrict ourselves, as an example, to the case of the phenomenology of a depurated cognitive content of a thought, symbolized as ‘ τ_1 ’, and the phenomenologies of two thought colourings, symbolized as ‘ ξ_1 ’ and ‘ ξ_2 ’, there will be “phenomenological interactions” between i) τ_1 and

ξ_1 , ii) τ_1 and ξ_2 , and iii) ξ_1 and ξ_2 . These interactions will result in the phenomenologies of τ_1 , ξ_1 , and ξ_2 to be “transmuted” as follows: from τ_1 to $\tau_1(\xi_1)$,³ from τ_1 to $\tau_1(\xi_2)$, from ξ_1 to $\xi_1(\tau_1)$, from ξ_1 to $\xi_1(\xi_2)$, from ξ_2 to $\xi_2(\tau_1)$, from ξ_2 to $\xi_2(\xi_1)$. When a phenomenological unit is “transmuted” in interaction with multiple other phenomenological units such that it gives rise to a “phenomenological blend” at the next step, we can say that the phenomenological unit in question is “multiply permeated.” τ_1 , ξ_1 , and ξ_2 are all multiply permeated in the example given, and we can symbolically render the “transmuted,” “multiply permeated” phenomenological units as follows: $\tau_1(\xi_1, \xi_2)$, $\xi_1(\xi_2, \tau_1)$, and $\xi_2(\xi_1, \tau_1)$.⁴ When these “multiply permeated” phenomenological units merge into a “phenomenological blend” at level III, that blend comprises $\tau_1(\xi_1, \xi_2)$, $\xi_1(\xi_2, \tau_1)$, and $\xi_2(\xi_1, \tau_1)$, but is also something over and above them. When we introduce another phenomenology of a depurated cognitive content of a thought, τ_2 , we shall have the following “multiply permeated” phenomenological units at level II: $\tau_1(\xi_1, \xi_2, \tau_2)$, $\tau_2(\xi_1, \xi_2, \tau_1)$, $\xi_1(\xi_2, \tau_1, \tau_2)$, and $\xi_2(\xi_1, \tau_1, \tau_2)$. At level III, we shall have a “phenomenological blend” comprising all these phenomenological units that is also something over and above them.

4. The underlying picture is then the following: when “phenomenological interaction” is taking place, everything may “permeate” everything,⁵ and “phenomenological blends” are born only from “permeations” (the “transmuted” phenomenological units that can get “multiply permeated”), containing them, but at the same time being something over and above them. I am endorsing here the following principles:

(P₁) One can get a “phenomenological blend” only from “transmuted” phenomenological units (or “permeated” phenomenological units).

(P₂) “Permeation” is restricted on a universe of discourse containing only “non-transmuted” phenomenological units—“permeation” of non-phenomenological units by phenomenological units is barred, so is “permeation” of phenomenological units by non-phenomenological units, and so is “permeation” involving “transmuted” phenomenological units.

According to (P₁), “non-transmuted” phenomenological units, such as those at level I, or non-phenomenological units cannot combine with each other or with “transmuted” phenomenological units in order to give rise to “phenomenological blends.”

(P₁) allows for cases in which the phenomenologies of thought colourings “permeate” each other, giving rise to “phenomenological blends” comprising phenomenological units such as the following: $\xi_1(\xi_2, \dots)$, $\xi_2(\xi_1, \xi_3, \dots)$, $\xi_3(\xi_1, \xi_2, \xi_4, \dots)$. I take it that such a “phenomenological blend” arises when a subject of experience entertains, within a certain interval of time, multiple thought colourings in the absence of a depurated cognitive content

of a thought, in cases such as those of idly experiencing a mental image, an emotion, an epistemic feeling, and an unbidden, meaningless inner soliloquy within a certain interval of time allowing the unfolding of the process of “phenomenological interaction.” All these phenomenological units are “permeating” each other, giving rise to “multiply permeated” phenomenological units at level II. At level III, these “multiply permeated” phenomenological units blend.

The interesting scenario is that in which we introduce depurated cognitive contents of thoughts into the picture. The opponent of a *sui generis* phenomenology of thought, pitched at the level of the depurated cognitive content of thought, can agree with (P_1) and with (P_2), but hold that when we introduce a depurated cognitive content of a thought into the picture, there is no “phenomenological interaction” taking place at level I, since there is no phenomenological unit corresponding to the *sui generis* phenomenology of the depurated cognitive content of thought. As such, the “phenomenological blends” at level III, be they considered in the idle cases or the cases in which there is also a depurated cognitive content of a thought present “recruiting” the thought colourings, should, according to the opponent, be qualitatively identical, not including any contribution from a putative *sui generis* phenomenology of τ_i . Is this really the case? Is it the case that the “phenomenological blends” in cases where a subject of experience is entertaining several thought colourings not “in the service of” a thought or “not recruited by” a thought are qualitatively identical to the “phenomenological blends” in cases where a subject of experience is entertaining those thought colourings “in the service of” a thought or “recruited by” a thought? Is the depurated cognitive content of the thought in the latter cases only a phenomenologically shadowy presence, incapable of “permeating” the phenomenologies of thought colourings and thus leading to qualitatively identical “phenomenological blends”?

If the opponent agrees that there are phenomenological differences and that the resulting “phenomenological blends” are not qualitatively identical, he has to challenge (P_1) or (P_2).⁶

The opponent can challenge (P_1) by holding that putative non-phenomenological units, such as the depurated cognitive content of a thought, can enter into “phenomenological blending” with phenomenological units—there would thus be phenomenological differences at level III, but without the need for any *sui generis* phenomenology of thought. This entails a defence of the thesis according to which phenomenological voids, such as the depurated cognitive contents of thought, can nevertheless engender “phenomenological blends” when the other relatum is a phenomenological unit. This seems to be an unneeded accretion in our metaphysic and it may ultimately predispose us towards contemplating more seriously even views according to which phenomenological voids, when interacting with each other or when blending with each other, may give rise to phenomenological “permeations,” phenomenological “blends,” or other phenomenological plenums.

The opponent can challenge (P_2) by holding that only the phenomenologies of ξ_i s are capable of “permeation”—the opponent can consider, for instance, that in a case in which we

have two thought colourings ξ_1 and ξ_2 , but no τ , at level III there will be a blend comprising ξ_1 (ξ_2) and ξ_2 (ξ_1), while in a case in which we have those two thought colourings ξ_1 and ξ_2 , but also a τ , there will be, at level III, a blend comprising ξ_1 (ξ_2), ξ_2 (ξ_1), but also τ (ξ_1 , ξ_2), although no ξ_1 (τ) or ξ_2 (τ), and thus no ξ_1 (ξ_2 , τ) and ξ_2 (ξ_1 , τ). τ does not “permeate,” but can be “permeated” by ξ_1 and ξ_2 . This amounts to a claim according to which a non-phenomenological unit can enter at level I into “phenomenological interactions” in the sense of being “permeated,” but not that of “permeating,” and can be “transmuted” into a phenomenological unit that can enter into “phenomenological blends.” This strategy agrees with (P₁) and also acknowledges the phenomenological difference between the cases in which thought colourings, although “permeating” each other, are conjured up freely or unbidden, and the cases in which the thought colourings are “in the service of” a thought or “recruited by” a thought, interacting with the depurated cognitive content of the thought and giving rise to different “phenomenological blends,” although there is no putative *sui generis* phenomenology of the depurated cognitive content of the thought “permeating” them. The latter cases differ from the former cases due to the presence of a phenomenological unit in the blend consisting in the “permeation” of the non-phenomenological depurated cognitive content of the thought by the thought colourings, giving rise to a “transmutation” from a non-phenomenological unit to a phenomenological unit. This τ (ξ_1 , ξ_2) is a novel phenomenological entity, but is not quite a *sui generis* phenomenology of thought, pitched at the level of the depurated cognitive content of the thought.

At this stage, the proponent of a *sui generis* phenomenology of thought must resort, instead of contrasts between the “phenomenological blends” at level III, to contrasts between the phenomenological units resulting at level II after the “transmutations” of the phenomenologies of thought colourings. The opponent denies any phenomenological contribution from a putative *sui generis* phenomenology of thought. Then the opponent ought either to i) defend the phenomenological identity between the following phenomenological units at level II in an arbitrary example involving “multiple permeation,” in which we consider several (e.g., three) thought colourings (ξ_1 , ξ_2 , and ξ_3) and several (e.g., three) depurated cognitive contents of thoughts (τ_1 , τ_2 , and τ_3), or ii) account for the phenomenological differences otherwise than by appealing to a *sui generis* phenomenology of the τ s:

- a) ξ_1 (ξ_2 , ξ_3)
- b) ξ_1 (ξ_2 , ξ_3 , τ_1)
- c) ξ_1 (ξ_2 , ξ_3 , τ_1 , τ_2)
- d) ξ_1 (ξ_2 , ξ_3 , τ_1 , τ_2 , τ_3)

If the opponent takes route i), he must defend what I take to be the implausible thesis according to which the phenomenologies in a)-d) are all qualitatively identical, since τ s make no phenomenological contribution. From my vantage point, it seems more promising

for the opponent to take route ii)—hold that the differences can be explained as follows: the further “permeations” of ξ_1 that are taking place when we introduce several depurated cognitive contents of thoughts into the picture are due not to *sui generis* phenomenologies of thought, but to the novel phenomenological entities of the τ (ξ_i , ξ_j) sort. In the simplest case, we have at level I a ξ_1 and a τ . At level II, ξ_1 is not “transmuted,” but τ is “transmuted” into τ (ξ_1). ξ_1 and τ (ξ_1) then “interact” and give rise to a “transmuted” ξ_1 , namely ξ_1 (τ (ξ_1)), in which τ itself makes no phenomenological contribution, although its “transmuted” continuant τ (ξ_1) does—it “permeates” ξ_1 . One may also push here for a “transmutation” of τ (ξ_1) into $[\tau$ (ξ_1)] (ξ_1), resulting from the “permeation” of τ (ξ_1) by ξ_1 . All this amounts to rejecting (P_2) as it is stated, by allowing for “permeations” between “non-transmuted” phenomenological units and “transmuted” phenomenological units. I think that it is more parsimonious to simply bar the possibility of a phenomenological unit “permeating” a non-phenomenological unit at level I, “transmuting” it into a phenomenological unit that can subsequently “permeate” and be “permeated.”

There clearly are certain available resources for the opponent of a *sui generis* of thought to account for the phenomenological differences between blends at level III and between the phenomenological units of “multiply permeated” ξ s at levels II, but I think that the resulting theory is much less elegant, more complicated, and less fertile than the theory that simply postulates a *sui generis* phenomenology of the depurated cognitive content of thought at level I and abides by (P_1) and (P_2). The virtue of simplicity, corroborated with those of elegance and fertility, ought to lead us to choose the theory according to which there is a *sui generis* phenomenology of thought, pitched at the level of the depurated cognitive content of thought, instead of the theory according to which there is no such mental-ontological entity and we can explain everything solely in terms of a phenomenology of thought colourings.

In this way, the debate between the proponent and the opponent of a *sui generis* phenomenology of thought can be conceived as a theoretical debate, in which theoretical virtues ultimately allow us to decide which theory wins the day. Although the theory according to which there is no *sui generis* phenomenology of thought may *prima facie* appear to be preferable because it complies more with Ockham’s razor, I maintain that *ultima facie* it is the theory according to which there is a *sui generis* phenomenology of thought that allows us to better explain the fundamental contrast between the phenomenologies of thought colourings in isolation and the phenomenologies of thought colourings when engaged by thoughts. According to Ockham’s razor, entities must not be multiplied *beyond necessity*. The contrast between the phenomenologies of thought colourings in isolation and the phenomenologies of thought colourings when engaged by thoughts is necessity enough, I maintain, for adopting the view according to which there is a *sui generis* phenomenology of thought “permeating” the phenomenologies of thought colourings when the latter are engaged by thoughts.⁷

5. The abstract metaphysical model of cognitive-phenomenological penetration or “permeation,” as I called it, concerns not only phenomenological penetration in the direction from thought to thought colourings, but also phenomenological penetration in the opposite direction. The strength of the *sui generis* phenomenology of thought is fleeting: shifting circumstances might make it more prone to penetrate the phenomenology of thought colourings or the converse might be the case, when thought colourings rather penetrate its texture, giving rise to highly colour-charged phenomenologies of thought. Whereas in the former case the phenomenologies of thought colourings align to the textural structure of the *sui generis* phenomenology of thought, to its abstract, formal, logical form-like pattern, in the latter case the logical form-like phenomenological pattern and texture might get distorted, altered, elongated by the unadulterated phenomenologies of thought colourings, possibly influencing the train of thought and the inferential and associative mechanisms governing its motion, opening unexpected potentials in the stream of consciousness. The machinery of thought, in its conscious dimension, may at times appear different, dependent upon the way in which the balance of probabilities contingent upon the prevalence of the *sui generis* or the colourings shifts.

Yet, despite the emphasis on penetrations or “permeations” of phenomenological fabric, the abstract metaphysical model put forward can, if further developed, restrict such phenomena, such that no penetrations or “permeations” occur between already-established phenomenological blends. At its avant-garde point, the model can retain a kind of modularity by not allowing further combinations of phenomenological blends or alterations of the newly established phenomenological fabric by phenomenological units outside it. The overall view of conscious mental life that would emerge from such a development is that of multiply emerging phenomenological blends, products of phenomenological penetrations in the adumbrated mental-ontological framework, connected on the basis of non-invasive threads at the macro-structure of the fabric of the stream of consciousness. Experienced from a distant vantage point even within a subject’s experiential stream, this overall phenomenological architecture might give the impression of modularity, neglecting the possibility of an underlying rich non-modular foundation in the metaphysics of mind.

Let me end this section by comparing the abstract metaphysical model of blending put forward with other models of interaction that may be heuristically employed in the study and understanding of such phenomena (the overlap model and the vector sum model) and by providing an answer to the questions: how are the blends achieved and how do the blends work?⁸

“Permeation” blending is *not* a case of simple overlap, as in set theory or in the overlap of colours such as red and yellow yielding orange. The overlap model (Figure 1) can be diagrammatically illustrated as follows, where, arbitrarily, μ_A – phenomenology of thought colouring in isolation, μ_B – *sui generis* phenomenology of the depurated cognitive content of thought (the values of μ_A and μ_B can also be interchanged):

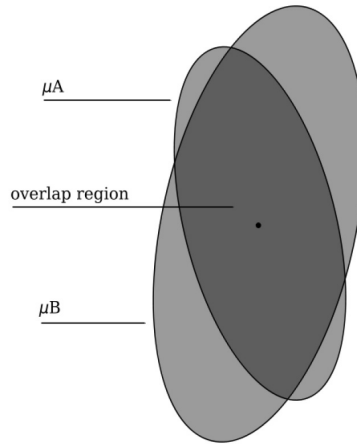


Figure 1. The overlap model

The representation here is bidimensional because of the nature of the medium, but we could also easily imagine similar three-dimensional or multi-dimensional representations. There are also various stages and possible movements/elongations of the overlap, from partial to total (when we can arrive at perfect alignment).

The problem with the overlap model is that it inaccurately represents the dynamics of cognitive-phenomenological penetration: understood set-theoretically, the overlap region focuses on a commonality, but not on interaction or penetration impact; understood colour-wise (red and yellow yielding orange), the mix simply eliminates the identity of the components and the traces they leave, as well as their detachability.

“Permeation” blending is also *not* a case of vector addition, diagrammatically illustrated as follows (the tip-to-tail method - Figure 2), where, arbitrarily, arrowed *a* – phenomenology of thought colouring in isolation, arrowed *b* – *sui generis* phenomenology of the depurated cognitive content of thought (the values of arrowed *a* and arrowed *b* can also be interchanged), θ – the angle of “phenomenological interaction” between arrowed *a* and arrowed *b*, arrowed $(a+b)$ – the blend of arrowed *a* and arrowed *b*:

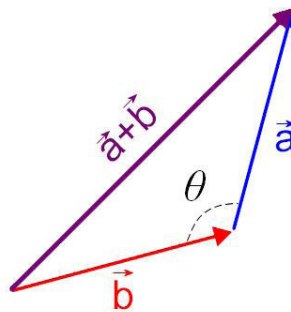


Figure 2. “Permeation” blending diagram

Vector addition is simply not an apposite representational tool to account for the phenomena of consciousness (neither metaphysically, nor epistemologically or heuristically), given its focus on physical phenomena – velocities, forces, and the like. This line of thought does not presuppose mind-body dualism, but it does not reject it either. Phenomenological “blends” are not simple arithmetical sums or vector additions, and especially not in a Euclidean, flat space. A more apposite mathematical representational tool would involve non-Euclidean models, such as models in hyperbolic geometry (where space curves outward) or in spherical and elliptic geometry (where space curves inward). It is hard to venture a non-intuitive, more precise guess as to the right geometry of conscious phenomena and “phenomenological interactions” compatible with the “permeation” blending model that I presented – my intuitive guess would be on models in hyperbolic geometry, since the convexity heuristic underlying it could account for the knowledge-seeking irradiations of consciousness in the world outside the head.

The model I put forward centres on “permeation,” an interlocking of phenomenologies that are not simply classical phenomenologies. It seeks to explain the fundamental contrast case between the phenomenologies of colourings in isolation and the phenomenologies of colourings attached to thoughts. Why is it that the texture of perceptual phenomenologies such as the phenomenology of hearing and auralizing strings of sounds initially devoid of any semantic properties changes after acquiring understanding, recognitional, and producing capacities for those semantic properties? Why is it that the perceptual phenomenology of seeing an image or a text changes after acquiring the mastery of the semantic properties that entirely catapult the experience in the semantic zone of experience, away from the purely syntactic, formal, and structural zones of experience? We can think of the experience of reading a text in an ancient, not so known language, such as Aramaic. We can think of the text also containing various images and symbols that are hard to understand and localize in context. Mastering the language and acquiring the capacities to see the images and symbols in the right way will radically change the experience. Something in the new experience will be the same as in the experience prior to the semantic elevation, but it will take serious mental effort to disentangle the interlocked components of the new experience. Such effort will probably require tagged memories of each of the learning steps, mechanizing something that is otherwise automatic.

As explained in §3, the blends are achieved in a *temporal* sequence. The processes take place in the biological spacetime in which an individual mind and body dwell. On the one hand, the phenomenologies of the colourings are always more empirical, pertaining to the senses (they are the transposition of the classical perceptual phenomenologies into the inner realm, the transposition of visual, auditory, olfactory, tactile, and gustatory phenomenologies into their corresponding imagistic phenomenologies). In a way, these phenomenologies come from the body and this is especially evinced in the case of natural emotions. On the other hand, the *sui generis* phenomenology comes from a non-sensory

dimension, it is conceived of in a more rationalist way – it doesn't look as if it comes from the body. It has been argued that the phenomenology of thought is a distinct experiential modality, as distinct from each of the sensory modalities as they are from each other, a cognitive-experiential modality; moreover, this distinct cognitive-experiential modality has been identified with the sixth Buddhist *āyatana*, that of thought, mind, or mental objects,⁹ something that comes close to what I have in mind. Overall, there are philosophers who are empiricists about the phenomenology of thought¹⁰ and philosophers who are more rationalists about the phenomenology of thought.¹¹ I side with the latter.

The blends work so as to infuse the classical phenomenologies with the *sui generis*, to achieve the semantic elevation. The *sui generis* illuminates the phenomenologies of the colourings, it elevates them through what may be called “progressive sparks” modifying the texture. And the same works in the other direction, where the phenomenologies of the colourings alter the *sui generis*, either in a negative or in a positive way, by charging the *sui generis* or by nuancing it. The “permeation” blending model and the interlocking of phenomenologies it rests upon is a model accounting for these phenomena.

It needs to be acknowledged that the category of thought colourings is a heterogeneous one – it puts together inner speech, emotions, images, epistemic feelings and any other mental states, events, or processes that might get entangled with the content of a thought. While one can see more easily the semantic elevation of the blend at work for inner speech, emotions, or images, the case of epistemic feelings is somewhat more complicated, but one can get traction on it as well – the distinctive phenomenology of disappointment of thinking that it is raining out and the disappointment due to the need to cancel an expected tennis match is not at the same level of semantic elevation with the disappointment of thinking that one has lost three years of life due to an accident. There are levels of disappointment and various associative and inferential connections that are established in the stream of consciousness depending on the nature of the thought content. The *sui generis* can elevate the disappointment into something tragic or dramatic, while the disappointment can charge the *sui generis* to the point of annihilating it or can nuance the *sui generis*, in the sense of seeking alternative paths in thinking to change the chemistry of disappointment, transforming a negatively polarized epistemic feeling into a positively polarized one. The subtle modifications of texture for the phenomenology of the colourings or the *sui generis* phenomenology can be explained by the existence of this force of field of interactions giving rise to the “permeation” blending.

It also needs to be acknowledged that the nature itself of the *sui generis* is somewhat mysterious. The depurated cognitive content of a thought, by extracting all the colourings, becomes a sort of a functional signature of a thought. It is a form of phenomenological void, yet it has phenomenological presence. If I were to synthesize my views on the nature of the *sui generis* phenomenology of thought, I would say that it consists in the opening of certain inferential and associative potentials in the stream of consciousness of thought:

thus, there can be a more inferential phenomenology, maybe related to the logical form of judgments, as well as a more associative phenomenology, arising from the entanglements between pure thought and thought colourings, functionalized in turn through the extraction of the colourings. The colourings in isolation are not devoid of content, just as the *sui generis* without colourings is also not devoid of content. But the content of the colourings when permeated by the *sui generis* gets to be semantically elevated, so it changes.

To summarize, it is often difficult to offer demonstrative, introspective arguments for the *sui generis* phenomenology of thought and it might well be the case that indirect arguments for its existence can be provided precisely on the basis of observing its penetration impact, causal or not, on other phenomenologies: a sort of a *nonconstructive*, rather than constructive *existence proof*. Yet, phenomenology-focusing or phenomenology-extraction thought experiments, in which we zoom in on relevant phenomenologies or in which we imagine a subject left without various phenomenologies, but still enjoying a *sui generis* phenomenology of thought or the phenomenology of an otherwise isolated colouring, even if in an inner otherwise almost computational environment, are sufficient *constructive existence proofs* (for such thought experiments, see, for instance, Avicenna's "floating man" argument¹²).

6. The theoretical developments put forward so far concern the architecture of mind and consciousness. They do not address the links between mind and consciousness, on the one hand, and extra-mental reality, on the other hand. There are reasonable grounds for arguing that mind and matter are not separate realms of reality, not in the sense of endorsing a form of physicalistic/idealistic monism with respect to the mind-body problem, but in the sense that mind and matter might be connected at a much more fundamental level. The metaphysical thesis of neutral monism, according to which there is only one underlying commonality to both mind and matter, distinct from each and to which both can be reduced to and constructed from, is such a philosophical position allowing the connection between mind and matter at a much more fundamental level. In previous work¹³ I have argued that the neutral entities posited by neutral monism can be understood as amorphous, plastic entities that can *morph into* various mental or physical entities and that this overall schemata of superscripted neutral monism can also be applied to the metaphysics of phenomenologies: there might be something subjacent to all kinds of phenomenologies (including the *sui generis*, the colourings, and the sensory-perceptual), a sort of an amorphous phenomenology *morphing into* particular phenomenologies. There is room for further inquiry leading from these views on the architecture and metaphysics of mind and consciousness and the metaphysics of phenomenologies to views on rationality, irrationality, and the study of cognitive distortions.

Rationality, irrationality, and cognitive distortions can only be appraised on a background comprising a subject's mind, other subjects' minds, and reality.

Intrasubjectively, it could be argued that the phenomenology of rationality is evinced when the phenomenologies of thought colourings align to the textural structure of the *sui generis* phenomenology of thought, to its abstract, formal, logical form-like pattern, whereas the phenomenology of irrationality and cognitive distortions are evinced when the logical form-like phenomenological pattern and texture get distorted, altered, elongated by the unadulterated phenomenologies of thought colourings, possibly influencing the train of thought and the inferential and associative mechanisms governing its motion, opening unexpected potentials in the stream of consciousness. In this sense, irrationality is not heuristically useless or pragmatically inefficient, possibly allowing important shifts and mutations in the stream of consciousness, giving rise to discovery, innovation, or creativity. Cognitive-phenomenological penetration from the direction of the *sui generis* to the direction of the colourings can function as a calibrating mechanism of rationality, whereas phenomenological penetration in the converse direction can function as a calibrating mechanism of irrationality when rationality is excessive.

Intersubjectively, the phenomenologies of different subjects can be sensed via empathy or via interpretational mechanisms. There is much room for misinterpretation at this stage, due to subjective interferences. Subjectivity can never be aligned, geometrized on a single dimension. Thus, subjective variety also means greater potential for misinterpretation in intersubjective interaction and appraisal of rationality and irrationality. What someone sees as rational, another person sees as irrational. Some cognitive distortions are seen in a positive light, others are seen in a negative light. This is always due to limitations on knowledge. Since we are not omniscient subjects, the phenomenologies that we harbour are always restricted, configuring subjective horizons that sometimes converge or diverge. Communication calibrates the cognitive transactions by working on modifications aiming at convergence of the subjective horizons. This process can shed light on whether a phenomenology is that of a rational or irrational mental state, event, or process in a more objective way. It can identify whether a cognitive distortion is justified or unjustified, epistemologically and pragmatically.

Neither intrasubjectivity, nor intersubjectivity can settle matters of rationality, irrationality, and cognitive distortions without the connection to extra-mental reality. Intrasubjectivity and to some degree intersubjectivity concern the conscious dimension of mind, but the connection to extra-mental reality is much stronger at the level of the underpinnings of the mind, the level of sub-personal processes. If the sub-personal machinery of thought functions on the basis of static and dynamic maps, rather than a formal language of thought,¹⁴ then the connection to reality is easier to establish. What counts as irrationality is also easier to establish, amounting to malfunction at the sub-personal level of building models of reality via the static and dynamic maps. Reality is never static, but dynamic, not only in the sense that the extra-mental environment is changing, but also in the sense that other minds constantly modify reality. The sub-personal machinery needs to detect not

only the non-mental shifts in reality, but also what count as mental shifts of reality. Neutral monism, blurring the distinction between the informational transactions between mind and matter into the continuum of neutral information, opens the way for a heuristic mechanism allowing the identification of what is rational, irrational, or cognitively distorted: the mind first settles on the neutrality point in any cognitive transaction, be it intrasubjective (e.g., in self-mind reading), intersubjective (e.g., other mind reading), or concerning the connection to extra-mental reality; it allows only after the skew towards the positive or the negative morphing, the gateway into appraisals of rationality, irrationality, or what is cognitively distorted. Building accurate models of reality and working rationality is thus a concerted effort in which both the sub-personal and the personal count, influencing and calibrating each other by allowing transfer of information. A modular view of the architecture of mind and consciousness does not do justice to the dynamics underlying the construction of accurate models of reality and the achievement of working rationality.

Two questions at this stage are the following: What *is* the alignment between the *sui generis* phenomenology of thought and the phenomenology of the colourings? How is the formation of rational belief influenced by the *sui generis* phenomenology of thought and is this influence evinced *before* or *after* the “permeation” blending?¹⁵

As already explained, the textural alignment between the *sui generis* phenomenology of thought and the phenomenology of the colourings is the sort of alignment that allows the semantic elevation of the raw content of the colourings, the transformation of raw inner speech into inner speech *as* meaning thus and thus, of raw mental images into meaningful mental images, of natural emotions into cognitively sharpened emotions, of vague epistemic feelings into more precise epistemic feelings (on various probability and approximation metrics). The textural alignment is a process that could take place either subpersonally or personally. But when it takes place in the stream of consciousness, we can see the formation of rational belief in the making, cancelling anomalous experiences, aligning their elements in the right structural pattern. Any delusional tendency coming from the anomalous experiences can be rejected and its persistence can be stopped. Rationality is principally driven by the *sui generis* phenomenology of thought – the latter influences the formation of rational belief *before* the “permeation” blending, it *enables* the “permeation” to occur on rational safe ground. The “conscious hook” that allows the *sui generis* phenomenology to “permeate” the phenomenology of the colourings and generate the blends allows, if maintained, the *persistence* of rationality *after* the “permeation” blending. In its absence, rationality is sectioned, fragmented. If the direction of “permeation” blending is from the colouring to the *sui generis*, then there is a higher probability of irrationality – we see the primordial forces of the body and of the mind at work, rather than the *sui generis* and the semantically elevated phenomenologies of the colourings. On such grounds, subjects only understand based on their previous experiences; anything outside this sphere is never understood empathetically. Through the semantic elevation, the *sui generis* changes the landscape.

We can think of cognitive-phenomenological penetration as a subject's striving to achieve the ideal of rationality and the unity between the empirical parts of the mind and the more rational parts of the mind – it is a union, in the stream of consciousness, between the two main chambers of the mind, a striving to reach what is sometimes called the Aleph (\aleph) point, *post* interactions in the stream of consciousness. In Borges' story *El Aleph*, the Aleph is a point in space that contains all other points. Anyone who gazes into it can see everything in the universe from every angle simultaneously, without distortion, overlapping or confusion. Cognitive-phenomenological penetration, through the semantic elevation of the phenomenologies of thought colourings and the modification of their texture, attempts to achieve this ideal.

The overarching goal of the inquiry in this section has been that of arguing that cognitive-phenomenological penetration has a pivotal role in appraisals of rationality, irrationality, and cognitive distortions, at the intrasubjective, intersubjective, and extra-mental levels. The reach and function of cognitive phenomenology in the architecture of mind are important not only when the phenomenology in question concerns the substantive parts in the stream of consciousness of thought (the kernels or topics of thought around which all parts of the thought revolve, conferring it thematic unity), but also when it concerns the transitive parts in the stream of consciousness (the fringes of the substantive parts, the spaces of transition within a thought and from one thought to another, the halo or horizon of relations). Appraisals of rationality, irrationality, and cognitive distortions and the heuristics of settling on the neutrality point before skews towards the positive or negative morphings are at their best in the zone of the fringes, evincing what is mostly potential, rather than actual in the stream of thought. The reach and function of the cognitive phenomenology of fringes and of its penetration impact upon other phenomenologies remains a topic worthy of further exploration,¹⁶ as does the question of phenomenologically-based prediction (by building dynamic models of self and other mental realities).

Notes

1. The sort of work that I attempt to do here is methodologically and structurally similar with that of Dainton 2006 and Williamson 2013 (chapter 5, "Logics of Phenomenal Character"); for the meaning of the illustrations, see the *Glossary* at the end of the paper.
2. I have talked here about phenomenological units and non-phenomenological units. I consider that interactions at the level of the nature of phenomenology involve phenomenological units, although those units may not be phenomenologically present. I endorse the following lemma: a unit counts as a phenomenological unit if it *can* be phenomenologically present (depending on the "acuity of consciousness"), whereas a unit counts as a non-phenomenological unit if it *cannot* be phenomenologically present.
3. I am using the 'x (y)' notation to symbolize the "embedding" of the phenomenology of y in the phenomenology of x, or, synonymously, the "permeation" of the phenomenology of x by the phenomenology of y.

4. I am ignoring here questions pertaining to the order within the brackets of the “permeating” phenomenologies—it may be argued that the phenomenologies of certain thought colourings have priority over other phenomenologies of thought colourings or over the phenomenologies of other depurated cognitive contents thoughts in the “permeation” of the phenomenology of a depurated cognitive content of a thought and, similarly, that the phenomenologies of certain depurated cognitive contents of thoughts have priority over other such phenomenologies or over the phenomenologies of other thought colourings in the “permeation” of the phenomenology of a thought colouring, but I remain agnostic.
5. The universe of discourse is restricted to “phenomenological units” of the sort encountered at level I. I am vacillating over whether to take “permeation” as irreflexive or rather nonreflexive (hence I am vacillating over referring to what is at stake with ‘everything “permeates” everything but itself’ or rather with ‘everything may “permeate” everything’), but I lean towards taking “permeation” as not reflexive (whether irreflexive or nonreflexive), symmetric and transitive. As we shall see, there are questions to be raised about the viability of “permeation” of non-phenomenological units. If we were to supplement the universe of discourse with non-phenomenological units, I take it that “permeation” would a) remain symmetric, if we allow “permeations” of non-phenomenological units by phenomenological units and vice versa, or b) be nonsymmetric, since although there are reciprocal “permeations” between phenomenological units, or “permeations” of non-phenomenological units by phenomenological units, there are no “permeations” of phenomenological units by non-phenomenological units (or, alternatively, one might consider that there are “permeations” of phenomenological units by non-phenomenological units, but no “permeations” of non-phenomenological units by phenomenological units).
6. The opponent may agree that there are phenomenological differences, agree with (P_1) and (P_2) , but hold that since “phenomenological blends” are something over and above their constituents, perhaps they are qualitatively different because there are extra qualitative properties by virtue of them being numerically different, although they have the same constituents. Alternatively, the opponent may consider that, although we consider the same ξ s, there may be a “reshuffling” involved in the way in which they “permeate” each other from one case to another and, in particular, from the case in which they are conjured up freely or unbidden to the case in which they are “recruited by” a thought or “in the service of” a thought. Such “reshuffled permeations” entail the need for claims of priority within the brackets of the “permeations”—as I remarked in a previous note, I remain agnostic over such priorities, but I tend to think that they do not have any import on the qualitative character of the resulting “phenomenological blends.”
7. The discussion in this section of the paper, in its current format, has been carried out at a very abstract level – it is an exercise in the metaphysics of mind and analytic phenomenology, and not an empirical investigation, although, in a Quinean way, I do not neatly distinguish between what is *a priori* and what is *a posteriori*. So, the high level of abstraction and the lack of empirically rich examples or illustrations are in their natural element given the meta-theoretical goals of the paper. The underlying metaphilosophical view is not that of building on concrete examples and paradigms in order to extract generalities and abstract patterns, but rather that of building on a rich array of intrasubjective and intersubjective experiences in order to offer a model that can be subsequently tested and investigated in a more empirical way. Analytic

phenomenology presupposes a synthesis starting from which empirical work can be done. My goal is to tap into the structures of the model with methods somewhat similar to those employed in theoretical linguistics, i.e., non-empirical, but building on certain kinds of intuitions. Such intuitions do not originate at this time in scientific experiments, but in the vast reservoir of phenomenological experience. I am not building on much extant empirical work, but I am intuitively and imaginatively constructing a model and a framework for doing empirical work in this field. When such relevant work will be done, the model will be calibrated in a reflective equilibrium-type approach – the vast reservoir of phenomenological experience is never exhausted and can be enriched through the various geometrizations brought about by scientific experimentation, in one's own conscious and unconscious *psyche* and in the general model of the conscious and unconscious *psyche*. The theses put forward can be applied to some particular cases of thought colourings. In my paper “The Nature and Phenomenology of Inner Speech” (manuscript) I discuss at length how the phenomenology of inner speech, when the latter is engaged by thought, can be considered as a cognitive phenomenology, in compliance with the abstract metaphysic explored in this section. When conscious thought is mediated or constituted by inner speech, the phenomenology of that mental episode is not separable into a cognitive component and a sensory, auditory-imagistic component—it is rather a unified composite: the phenomenology of inner speech *as* meaning thus and thus. But in cases of conscious thought without inner speech or meaningless inner speech, the two components can come apart. Views on the mechanics of inner speech emphasize the role played in engendering the experience of inner speech by two components: a production component and a perception/comprehension component. These go by several names: inner voice, motor-articulatory imagery for the production component; inner ear, auditory imagery for the perception/comprehension component. From a phenomenological point of view, it is unclear to what extent the actual mechanics of inner speech, involving a production and a comprehension/production component, is relevant. Even if we agree with studies such as the ones in D. Reisberg, ed., *Auditory Imagery*, (Hillsdale, NJ: Lawrence Erlbaum, 1992), that emphasize a constant partnership between the two components in most tasks involving inner speech, or with studies stressing their inseparability (D.G. MacKay, “Constraints on Theories of Inner Speech,” in D. Reisberg, ed., *Auditory Imagery*, 121-150), or studies considering inner speech as a form of motor imagery e.g. M. Jeannerod, *Motor Cognition* (Oxford: Oxford University Press, 2006), or, for that matter, with theoretical views not allowing any division into components of inner speech, what matters is that, phenomenologically, inner speech appears to be in most cases as already possessing a meaning, as already semantically interpreted. Therefore, the phenomenology of inner speech is not a purely sensory-perceptual one. This would only be the case if we were constantly hearing streams of inner speech in an unknown language, or syntactically and semantically ambiguous or obscure speech streams running through our heads, constantly applying judgments of translation or disambiguation along the way in order to make sense of them. There is a strong case to be made against such a scenario as holding for everyday inner speech. Even in pathological cases such as those of auditory verbal hallucinations, they appear to be inherently meaningful, although acknowledged as not belonging to oneself. Independently of whether auditory and motor imagery work in tandem or separately in inner speech, they may nevertheless independently support semantic properties, so the thesis that cognitive phenomenology is

inherent in the phenomenology of inner speech is safeguarded. In my paper “The Nature and Phenomenology of Emotions” (in preparation) I similarly discuss at length how the phenomenology of emotions, when the latter are engaged by thoughts, can be considered as a cognitive phenomenology, in compliance with the abstract metaphysic explored in this section. Emotions are a case in which phenomenological blends are eminently evinced. The contrast between the phenomenologies of natural emotions and cognitively sharpened emotions may be considered as the fundamental contrast case allowing us to postulate a *sui generis* phenomenology of thought capable of “permeating” the phenomenology of emotions (see J. D’Arms and D. Jacobson, “The Significance of Recalcitrant Emotions (Or Anti-QuasiJudgmentalism),” *Philosophy*, Supp. 52 (2003): 127–145 for relevant phenomenal contrast cases and the challenge of recalcitrant emotions). In emotions, the body (possibly including the brain as well) and the mind meet in what may be called a *nexus mirabilis*. The body brings physiological manifestations that the mind interprets, misinterprets (see the classical experiments of Schachter and Singer, in S. Schachter, and J. Singer, “Cognitive, Social, and Physiological Determinants of Emotional State,” *Psychological Review*, 69 (1962): 379–399), distills, transforms, or sharpens. The mind can zoom in or zoom out on certain physiological manifestations and can also give rise to certain physiological manifestations. Emotions are the products of this *nexus mirabilis*, where there is mysterious bidirectionality (see the James-Lange theory of emotions and the Cannon-Bard theory of emotions – W. James, and C.G. Lange, *The emotions*, Baltimore: Williams & Wilkins Co., 1992; W.B. Cannon, “The James-Lange theory of emotions: A critical examination and an alternative theory” *The American Journal of Psychology* 39 (1927): 106–124; Idem, “Again the James-Lange and the thalamic theories of emotion,” *Psychological Review* 38 (1931): 281–195). The cognitive sharpening of natural emotions, induced by the “permeation” of the *sui generis* phenomenology of thought, gives rise to a form of elevation of the body and of the mind. The *nexus mirabilis* is the place where to look for explanations of psychosomatic interferences in functioning, and in this sense the study of cognitive-phenomenological penetration is also relevant for the philosophy of medicine and what is sometimes called “holistic healing.” One question that remains concerns the functionalization of emotions and of cognitive-phenomenological penetration – if such functionalization can be done, could emotions be induced in a robot, for instance? The problem here is at the level of natural emotions – while cognitively sharpened emotions may be induced in a robot, the latter needs a base of natural emotions on which to build; without such a base and a living, biological environment, natural emotions are hard to replicate and to produce artificially, unless the biological environment in which living organisms that we see around is in turn an artificial replica (*cf.* skeptical Cartesian arguments and brain-in-the-vat scenarios and discussions about biological and artificial singularities in the phenomenological tradition and in AI). If we are already biological robots, the question of the functionalization of emotions and of cognitive-phenomenological penetration was solved a long time ago. The functionalization of the intricate tapestries of non-modular interactions in the stream of consciousness and of the phenomena of cognitive-phenomenological penetration whereby the spark of the *sui generis* phenomenology of thought modifies the texture of other phenomenologies undoubtedly hold the key for the creation of old and new emotions, building upon a natural, biological base. Still, the biological base will always bring recalcitrance,

given its inherent limitations. So, an expansion of the biological base, an unboundedness that could be generated in it, possibly through the openings of inferential and associative potentials of thinking in the stream of consciousness, will bring cognitive-phenomenological penetrations at a much higher rate, allowing elevations, new emotions, and architectural experiential tapestries to occur.

8. These issues have been raised by an anonymous reviewer.
9. See G. Strawson, "Cognitive Phenomenology: real life," in *Cognitive Phenomenology*, ed. T. Bayne and M. Montague (Oxford: Oxford University Press, 2011), 285-325.
10. E. g. J. Prinz, "The Sensory Basis of Cognitive Phenomenology," in *Cognitive Phenomenology*, ed. T. Bayne and M. Montague (Oxford: Oxford University Press, 2011), 174-196.
11. E. g. C. Siewert, "Phenomenal Thought," in *Cognitive Phenomenology*, ed. T. Bayne and M. Montague (Oxford: Oxford University Press, 2011), 236-267.
12. The "floating man" argument has been extensively discussed – see, e.g. D. Black, "Avicenna on Self-Awareness And Knowing that One Knows," in S. Rahman, T. Hassan, T. Street, eds., *The Unity of Science in the Arabic Tradition* (Dordrecht: Springer, 2008), 63–87.
13. See M. Dumitru, "Monismul neutru, încotro?" in *Problema minte-creier în neuroștiința cogniției*, ed. G. Vacariu, and G. Ștefanov (Bucharest: Bucharest University Press, 2013), §3 and §5.
14. See M. Dumitru, "Compositionality, the Language of Thought, and the Dynamic Map of Thought," M.A. Diss., Ecole des Hautes Etudes en Sciences Sociales Paris, 2005.
15. These issues have been raised by the same anonymous reviewer.
16. I analyze this topic starting from some historical comparative observations about the similar views of William James and Edmund Husserl on the theory of fringes (also explored in A. Schütz, "William James' Concept of the Stream of Consciousness Phenomenologically Interpreted," *Philosophy and Phenomenological Research* 1 (1941): 442-451, especially with respect to the question of articulated and polythetic syntheses) in my paper "William James and Edmund Husserl on the Conscious Stream of Thought" (in preparation).

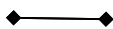
Glossary:



Phenomenology of thought colouring in isolation from a thought.



Sui generis phenomenology of thought in isolation from thought colourings (phenomenology of the depurated cognitive content of a thought).



Phenomenological interaction



Phenomenological "transmutation"



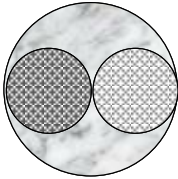
Phenomenological blending



Phenomenology of thought colouring “in the service of” a thought or “recruited by” a thought; phenomenology of thought colouring “permeated” or “infiltrated” by the *sui generis* phenomenology of the depurated cognitive content of the thought; *sui generis* phenomenology of the depurated cognitive content of the thought “embedded” in the phenomenology of the thought colouring.



Sui generis phenomenology of the depurated cognitive content of a thought “in the service of” a thought colouring or “recruited by” a thought colouring; *sui generis* phenomenology of the depurated cognitive content of a thought “permeated” or “infiltrated” by the phenomenology of the thought colouring; phenomenology of the thought colouring “embedded” in the *sui generis* phenomenology of the depurated cognitive content of the thought.



Phenomenological blend, comprising i) the *sui generis* phenomenology of the depurated cognitive content of the thought “embedded” in the phenomenology of the thought colouring and ii) the phenomenology of the thought colouring “embedded” in the *sui generis* phenomenology of the depurated cognitive content of the thought.

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- Williamson, T. *Identity and Discrimination*. Reissued and updated edition. Oxford: Wiley-Blackwell, 2013. they had to meet a challenge. The challenge, of course, was to give an account

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*A University is imaginative or it is nothing - at least nothing useful.
Alfred North Whitehead*

Abstract: *The modern society is a stunning mixture of organizational efficiency, financial accountability, political pragmatism with people overloaded with information, some knowledge, conflicting demands, superficial intercourse, and unnecessary freedoms. The political commixture of poli-culturalism is confusing, the social regulation pragmatism is disappointing, the flood of miscellaneous data and contradictory knowledge is staggering and the individual feels that entire world is taking on him. In these circumstances the nurture of youth personality have become a very fortuitous and integer process whilst, successively, the Church, Government, Family, and School have lost their ethical and social ascendance together with society confidence in guiding the creation of well-developed and self-confident members of society. After more than six centuries of existence, a recent general process of democratization, massive extension, and many marketable adjustments, the formative institution of University should reconsider its situation to see if it can carry its traditional role further, if it has to adjust it, or if it disperses in other upgraded, better fitted and more effective organizations.*

Keywords: *rationality, university, knowledge, teaching, research.*

THE RATIONALITY OF UNIVERSITY

1. What is a University?

At the moment there are more than 10000 universities in the world¹ and their role and function are considered either self-evident – institution for education and research – or, in a narrow humanistic and social researchers groups, they are seen to have “the public role of contributing to the sustainable development (of) human society as a whole through education, scientific research, promotion of culture, art, and sports, medical service, and contribution to local communities.”²

But neither of these two viewpoints fit with what is observed in real life. In fact, the evidence reveals the opposite: an old-fashioned institution, to a large extent isolated in an elitist ivory tower and developing only sporadic relations with the community and society.³ Moreover the University’s knowledge production remains for the rest of society abstruse and inefficient to a large extent. However, “universities operate on a complex set of mutually sustaining fronts – they research into the most theoretical and intractable

uncertainties of knowledge and yet also seek the practical application of discovery; they test, reinvigorate and carry forward the inherited knowledge of earlier generations; they seek to establish sound principles of reasoning and action which they teach to generations of students. Thus, universities operate on both the short and the long horizon. On the one hand, (...) they work with contemporary problems and they render appropriate the discoveries and understanding that they generate. On the other hand, they forage in realms of abstraction and domains of enquiry that may not appear immediately relevant to others, but have the proven potential to yield great future benefit.”⁴

On the other hand, the self-evident sense of universities as schools for research and education with their traditional inertia, rigid structure and intricate organization can't explain their still well-established position and recognition in a society, driven by economic forces, efficiency, technological development and a compulsory high rate of pragmatism. “Both these functions could be performed at a cheaper rate, apart from these very expensive institutions.”⁵ The production and popularization of knowledge is more efficient for economic, technical and administrative purposes to be attained segmental on every particular task and aim, and is facilitated by communication technology. As an educational facility, if the University is primarily conceived as offering professional training ground in various domains, but even here its efficiency and quality will soon be under the level of those specialized and focused on punctual tasks trainings offered by growing alternative specialized institutions.⁶ So, in order to understand the University's rationale the question should be formulated from a broader perspective, one which conceives the University as one special social and cultural institution that was required at a certain point in the evolution of mankind.

If we look back at history, we noticed that the University, as social and cultural establishment, became an institution of particular case within the more general socio-economical phenomenon of guilds rising from Middle Ages, when “intellectual professionals” around monastic schools started to organize themselves into proper corporations named *universitas scholarum*. They and their students assumed the exclusive right for teaching and the University ceased to be a supporting system of monastic schools and became a self-sufficient socio-cultural structure, a lively climate of cultural ferment. But in order to gain a deeper understanding of what the University is, we have to consider both aspects of human evolution: its social history and its corresponding history of Ideas (or cultural evolution). Any social organization has a cultural structure of ideas underneath which legitimizes it and orients it. As one of the most fundamental and cultural institution, the University could be understood only through its underlying rationality and social utility altogether.

2. The Idea

From the first sparks of consciousness, the human being questioned the world and strived to make sense of what was happening around him/her. Gradually, individual and

accidental observation and explanation was replaced by collectively constructed, negotiated and shared accounts. Any human communities were accompanied by a cultural perspective of the world. The History of Academia⁷ starts when the simple *question on Nature* was replaced by *questioning the old way of questioning the Nature* (in its turn, this moment was made possible by the level of self-reflection, the philosophical level of understanding, achieved by human civilization). The “analysis of nature analysis” became the prime object of Academic study. The fact that past knowledge was established as subject of study for itself was the key factor for the development of collective scientific consciousness, which is a requisite for achieving the level of Science.

From that moment on the adventure of academic knowledge evolved continuously, with periods of accumulations and moments of upheavals.⁸ The question of knowledge of Nature and history of Nature since Aristotle, the primary topic of Antiquity, was replaced and opposed by the fair enunciation of natural laws by Descartes and Kepler. The later were substituted, in their turn, by the complex and all-embracing Einstein’s Theory of Relativity and, after this, by the all-explaining Hawking’s Quantum extension. This phenomenon observed in the history of fundamental research is paradigmatic for the development of scientific knowledge within the University.

Another common feature of University setting is the validation of knowledge that exists and matters only after it becomes past and historical and other brains transmitted it. “Our universities have been founded more or less in the spirit of this historical knowledge; not so much, perhaps, in the first beginning of the revival of literature, as in the later time. Their whole scientific organization could be inferred from this separation of knowing from its prototype by historical learning.”⁹ The objectivity of method surpasses in importance the data collection and the very object of knowledge. From Cartesian ontological methodic doubt to Kantian epistemological transcendentalism and up to the completely dematerialized universe of phenomenology of consciousness, the object of knowledge gradually had dematerialized till it vanished in the imaginary mathematical object world of the magical quantum reality of modern physics. This phantasmagoric conception of knowledge, completely opposed to contemporary, pragmatic, super-realistic and skeptical society, could be cherished only in a special institution able to ensure living conditions and to protect large enough groups of minds, dedicated to the imaginative acquisition of knowledge.¹⁰ An institution which lets them pursue the truth without restraint over their methods of (critical) thinking, individual and collective, and safeguards their mind to lead the knowledge and understanding to higher levels.

However, as the human is an inseparable psycho-organic being and its personality could be only understood by corroborating its organic, social and cultural characteristics, any social institution could be understood by complementing its social structure with its cultural meaning. And if in the human, the organic urges can be opposed to reason commandments,¹¹ the working principles of the University as autonomous institution could sometimes become opposed to its cultural principles. The academic community has its own preservation impulse and could turn into a dogmatic defender of its own opinion deploying

a fierce censorship instead of free debate. This is true not only, as one would believe, in the humanist, theologian or social disciplines, where we have plenty of cases throughout history, but in natural and medical sciences as well, where the leading academic staff could inquisitorially impose its own historical truth against any other empirical or fact-proven alternative.¹² These facts demonstrate, once again, the difference and relation between the underlying cultural principles and the social condition of the University.

The organization and life of the University was constantly changed under the pressure of social evolution. The last century brought great changes to the social structure and social attitude, in particular the development of technological sciences and their application. As a result, the balance of the traditional University life has profoundly disturbed and education has acquired an increasingly technical character.¹³

3. The Institution

From a social history perspective, the first universities from middle ages were designed to train the clergy, men of science, men of letters, doctors, lawyers, and engineers. In other words, universities were organization for teaching professional training and research (especially theoretical) for the higher classes of society. When the instruction in humanities or arts (philosophy, literature, history or political science) and sciences (mathematics, economics, physics and so on) were not made in private, they were taught in universities and had an elevated historical mission for preparing youths for future positions of power and influence in society. They were relatively isolated from other social strata, producing professional elite and knowledge (by research) along with education (by teaching) for these elites. For a long time, the traditional University proved to be a cradle or, in other cases, an incentive for the highest achievements of human culture. The development of knowledge and technology and the corresponding advancement of human behavior created a new society with different needs to which the secluded traditional University was constrained to adapt. The rising level of general knowledge and professional knowledge opened the universities for the masses, changed their balance, curricula, methods and subject matter approaches and strongly oriented them toward economic and occupational (professional-vocational) areas.

One of the main transformations of modern universities was a consequence of developing technology and industries, the multiplication of technological and applied sciences school with no educational basis or purpose. In the US, for example, the bachelor degree in occupational fields rose, in less than 30 years, from 45% in the 1960s to over 60% in the 1990s and many universities had more than 80% practical degrees.¹⁴

In this context, the proper place and function of the contemporary University comes out. If education is the major, collective and wide-ranging process of socialization for modern humanity, then formal education ensures the unity, communality and mandatory regularity

for any evolved civilization to subsist. The development of technology and the complexity of social relation entail a corresponding development and increasing duration of formal education. Hence, the professionalization of the University seems a natural process brought about by social evolution. But the consequences of this forced alliance between universities and industry, starting from the 1980s in the US and the West and after 1989 in the Central and Eastern Europe, under the label of civic duty of academic knowledge to improve productivity, has already gone too far. Universities diminished their teaching function and transformed it in a sort of professional training, and shifted from a fundamental research to an applied one, while the market demand was to attract corporate and administrative funds. Soon they started to look more as a sort of business schools concerned mainly with self-financing from taxation, grants and projects and commercialization of academic research.

What seems not to be understood, either by national decision makers or by their managerial staff, is that universities cannot function as business enterprises and compete with economic organizations as industries or corporations. The rights over intellectual propriety are not enough, at the end the crafty strategies and powerful business politics of big corporation will prevail in the economic competition.

However, the University could be, and partially is, integrated organically in the socio-economic system through one of its key feature - the intellectual production. The propeller of the economic growth in modern economy is the intellectual capital and innovative ideas, and not the economic rights, property, production, productive capacity or mechanical innovation. And here lies the proper place of the University as point of agglutination for social intelligence. In order to accomplish and develop this role the decision makers have to “stop encouraging matches between University and Industry for their own sake. Instead, they must focus on strengthening the University’s ability to attract the smartest people from around the round - the true wellspring of the knowledge economy.”¹⁵

Another flaw of the argument that the University could manage in the economic competition as any other organization is that it lacks the historical reason of the University endurance. The success of the University alongside the economical progress of society was due precisely to its non-economic structure and goals. Its policy is free production and dissemination of truth by conducting public research, orienting the research toward lasting and nonprofit outcome, publishing freely the results and educating students (free of charge, or subsidized), contrary to capitalist business organization which is based on copyright, propriety, ownership, paid services and so on. As the evidence from scientific literature has already proved, highly skilled people are not only attracted by money, they also have a big mobility and want to work in a stimulating and elevated environment and to be surrounded by smart people. And this is exactly what the University offers as a working enterprise. “The University plays a magnetic role in the attraction of talent, supporting a classic increasing-return phenomenon. Good people attract other good people, and places with lots of good people attract firms who want access to that talent, creating a self-reinforcing cycle of growth.”¹⁶

Beside the change of its orientation from fundamental research toward applied one, another effect of the compulsory marriage with industry and business sectors was the increasing secrecy in academic research, facts which affect the speed and progress of knowledge and contradict the ethical function of University as free enterprise for knowledge dissemination. The increasing submission of the University to the industry and business sector could be noticed in the effects of modern education over the students. While the level and quantity of taught knowledge is on the increase, the students' mind openness and versatility is diminishing. This paradox indicates the action of a subtly complex and concealed phenomenon in education: the hidden curriculum.

4. The hidden curriculum

It is already widely recognized that beyond Enlightenment ideals and beliefs, the mass schooling was much more the result of industrial revolution than the progress of political consciousness.¹⁷ The public elementary school was rather the result of technologic and economic changes and correspondingly requirements of workforce than that knowledge advancement. Hence, the school institution was built more after the factory blueprint and not after that of Academic settings. What was more important for mass-educated people to know was not as much as basic reading, writing, arithmetic and a little bit of history and other subjects, but chiefly punctuality, obedience and repetitive work. It was the industrial progress, not the cultural one, which required workers who appear on time and work on a schedule, who take and obey orders from a superior without questioning, and being able to perform roughly repetitious operations on assembly lines.¹⁸

Since the industrial age, society has become more complex, the types of occupation more diverse, and therefore the hidden curricula in school have become more flexible. In a synthetic overview on the differences in schoolwork in contrasting social class contexts,¹⁹ Jean Anyon has identified four distinct types of schools corresponding to the social characteristics of pupils' parents: occupation, incomes, social position, and study level. These four types are as follows: *working class schools*, *middle-class school*, *affluent professional school* and *executive elite school*. Anyon noticed that each school has its particular general strategy of working in class which emphasizes different skills, aptitudes and abilities, so the "*fifth-graders of different economic backgrounds are already being prepared to occupy particular rungs on the social ladder.*" This "hidden curriculum" of schoolwork which acts silently but is more powerful than the "overt" one, is a tacit preparation for relating the pupil to the process of production in a particular way. Differing curricular, pedagogical, and evaluation practices emphasize different cognitive and behavioral skills in each social setting and thus contribute to the development in children of certain potential relationships to physical and symbolic capital, to authority and to the process of work.

In parallel to the educational ideals and aims fostered to a certain extent by overt curriculum, the hidden curriculum produces underneath a subservient workforce, encourages an acceptance of hierarchy, teaches people to be motivated by external rewards, legitimates inequality and justifies privileges, attributes poverty to failure to conform and achieve, and cultivates a myth of meritocracy – i.e., those who do not achieve should blame themselves. The fragmentation of school subjects prepare children for the fragmentation of the workforce.²⁰ Moreover the pupil is “«schooled» to confuse teaching with learning, grade advancement with education, a diploma with competence.”²¹ The most important factor of this equation is the general situation of the teacher in modern society.

5. Teaching

Together with the generalization of education, the number of teachers increased, the curricula became more standardized, and teacher training grew more formal and hence their role and status decreased both in class and society. Nevertheless, there is a lot of research evidence²² which suggests that, except for non-school factors,²³ the teacher is the most important factor for student achievement than any other aspect of schooling.²⁴ These facts close down on the belief that the training provided by the teacher could be replaced in the future by more interactive, animated, accurate activities held by specialized programs. The essence of education is not the transmission of information: “we teach some by what we say, we teach some more by what we do, but we teach the most by who we are.”²⁵

The idea of academic teaching is intimately related with knowledge: the conservation of knowledge and ideas; the interpretation of knowledge and ideas; the search for truth; the training of students who will practice and “carry on.”²⁶ The function of the University, unlike any kind of professional training, is the transmission of knowledge *as totality not as parts*. This is possible only by a genuine form of teaching. “The true province of University lectures is to be genetic. This is the real advantage of teaching by living men, that the man does not give mere results, like the writer, but present – in the higher sciences, at least – the mode of reaching these results; and in every case, makes the totality of science arise, as it were, before the eyes of the student.”²⁷ This mode of communicating knowledge is the only one which facilitates the achievement of the complementary primary objective of higher education systems to enable students to “take on the world,”²⁸ by making them be critical persons. The University is not meant to produce workers, nor even highly skilled employees, but *persons of distinguished talent*, “people who not only possess sophisticated technical knowledge, but who also can make reliable judgments using such knowledge as members of society, and who have a broad education, sensitivity, energy, perseverance, and communication skills that enable them to play a leading role in today’s global society. They are also people who are deeply trusted and respected.”²⁹

Professional training is indeed an activity which could be better accomplished in other types of organizational structures. But, the higher sciences cannot be possessed or attained in the form of technical knowledge by multiplying practical familiarity with the elements and the number of exercises. If this mechanical expedience is indispensable for attaining a prerequisite level of competence and understanding, then promoting a higher level of understanding and competence necessitates a broader perspective which technical and mechanical substance of professional domains activities are unable to provide.

The advantages of this highly complex and cultural institution, which is the University, should be preserved and not reduced to trivial working force training and applied research on demand. The University instead, by its specific nature and properly managed organization, should keep on cultivating highly educated people and contribute to forging a critical and democratic citizenship. It could engage actively with the pressing development needs and challenges of our societies, with the intellectual and cultural life of societies, i.e. to contribute to the intellectual and cultural development of a critical citizenry. However, the accomplishment of this task requires to stay away from an ordinary business perspective and imaginatively and creatively undertake different kinds of rigorous scholarship (“discovery,” “integration,” “application” and “teaching and learning”³⁰) and research (fundamental, applied, strategic, developmental), aims and objects.³¹

A University is a totally different type of social organization than corporations, „it is primarily a centre of cultural life and cultural progress,”³² in the most general sense of the word. It is committed to seeking, knowing and transmitting the truth above anything else. This task of cultural leadership, which is the full and proper business of a University, can only be fulfilled if the University combines and integrates three main functions: provides for the maintenance and diffusion of culture in the community; arranges for carrying on research in all branches of learning; and undertakes the education of undergraduate students.³³

And exactly as the critical forms of teaching and learning could not be realized in non-academic settings, so the fundamental research could not be performed except in a safe environment protected from trivial, immediate profit or financial interests. The University has the mission to ensure that the need for knowledge will exert freely and unconstrained by immediate purposes, economic or political pressures or evaluations.

6. Research

The research function “represents the central nervous system of the University organism.”³⁴ The particular knowledge, promoted by the capitalist organization of society, proves sustainable and valuable in the long term only if it fits and is consistent with the general science, otherwise any genial idea will come, sooner or later, to reveal its negative by-effects and become deleterious. “The knowledge of the organic totality of science must

precede the special education for a particular profession.”³⁵ If science is conceived as a mere utility, the University area reduced to an institution for the transmission of knowledge and specialized organization could do this better, cheaper and more conveniently for the public.

The general and complete knowledge – not the knowledge for something as in industry and social life but knowledge for itself (the fundamental knowledge as initial liberal sciences and arts were designed for) requires a different kind of settings than corporate research centers could provide. This means, at the same time, the exploration, creation, multiplication and transmission of knowledge. “To extend the boundaries of human knowledge, and to multiply oneself in generations of students, is the high privilege of the University investigator.”³⁶ Of course, all this means that the old structure of curricula should be modified especially under its peculiar aspect of the appropriation of past knowledge. It should be critically evaluated and synthesized, ceasing to be dogmatic or descriptive, should stop to overcharge the content of courses, and will be used for critical thinking construction, and not only for general culture.

Until now, the University’s setting remains solely able to ensure the necessary mentality for collective progress, by combining the demand for objectivity and the impetus for development and evolution, for opening new horizons in knowledge and technical application, and to combine humanistic values with a rational attitude for the sake of Humanness. The knowledge produced within the academic medium was the basis of civilization for the European progress, this favorable environment from medieval to present-day universities allowing the seeds of imagination to insert fresh ideas within the wrought soil of traditional reason and to provide intellectual and material safety condition for growth and dissemination. But all of these were possible because “the management of a University faculty has no analogy to that of a business organization”³⁷ as the well-known mathematician and philosopher Alfred North Whitehead warned at the beginning of the last century. A faculty is a group of scholars organized to compete, first of all, amongst themselves and stimulate each other to develop in directions felt to be fruitful. The excessive and organizational administrative requirements (personal attendance at stated time on unnumbered formal meetings, participation on conference numbers, scientific papers quantity, project applications, and so on) will stimulate formal mechanisms of coping. Both teachers and students will adapt formally, they will mime and pretend to teach, learn, memorize mechanically and so on. And hence, the activities would lack substance and consistence.

The national policymakers and staff management of universities have to understand that “the modern University system in the great democratic countries will only be successful if the ultimate authorities exercise singular restraint, so as to remember that universities cannot be dealt with according to the rules and policies which apply to the familiar business corporations.”³⁸

7. What was done

If it looks at the recent history of Euro-Atlantic universities one will notice that the modernization of the University has implied rather a passive adaptation of the academic settings to the needs of the business environment and not, as someone would expected, an active role in changing it and evolving toward a real Knowledge Society.

These measures habitually regard only the promoting University outreach programs (as open distance learning, online learning, virtual universities, and corporate universities) for industries and less for communities.³⁹ An analysis made on the situation of American universities from 1970 onwards shows a flagrant semblance with the present state in Romanian higher education system. This resurgence of technical and practical domains in universities had a big impact on their organization “The growth of occupational-professional education is itself one support for the climate of utilitarianism on campus,”⁴⁰ and the adoption by faculties of the professional schools model diminished, up to complete elimination, the art and smaller sciences. It is worth noticing that demand for occupational-professional degrees remained at the same level in the US even in the 1990s when workers had significant growing earnings if they were graduates while liberal art and sciences were transformed in a sort of auxiliary support for those types of curricula.⁴¹

The Academia (as institutionalized Knowledge), together with Health and Spirituality are fundamental values of Mankind. If they are degraded in conception and as social institutions at the level of an economic organization their natural and positive function would be lost. The University would cease to be a factor of progress. Unfortunately, both the public and most of those involved in academic management and decision makers seem to neglect the historical role and the meaning of University for the evolution of human civilization and envisage only such passive, but long term, deleterious solutions. These sort of solutions includes engagement with industry, commerce and community to promote awareness and innovation of sustainability issues; inclusivity to provide a seamless web of knowledge development; research to provide input of cutting-edge knowledge and contribution for a governance for strategic development, or appropriate networks for communicating, integrating and transferring knowledge in social and economical environment.⁴² Such a vision lost the specificity of the University. It forgets that the power and high status of academia stemmed from its non-economic and nonpolitical principles, and that the objectivity of knowledge is ensured by its social integrity just because the University is not a business! “The role of the University in world society may not be measured by rankings and it may not depend completely even on the comprehensiveness of curriculum. Something more fundamental may be a willingness to embrace taking a global perspective for faculty as well as students. Once that exists, we may be entering an era where all that is making our world so interconnected will greatly facilitate preparing truly global citizens.”⁴³ The University as business enterprise is a long-term self-destructive endeavor.

Its value-added product is social (and cultural, for sure), and the solely economic appraisal would subvert its primary function. Instead, the economical embodiment of University bears a strong resemblance to a very complex organization of social economy.⁴⁴

8. How it should be

It becomes clear now that the University, as a cultural prestigious establishment, is an endangered species. Its former glory, status and respect were molded by industrial business transformations into trivial organization with an amalgam of functions. Its fundamental role was lost in the common pursuit for prestige, efficiency and survival. Moreover, its mission is not even to be found in its content of teaching or research, in how it carries them out or how it managed to subsist through them. The mission of the University resides totally elsewhere. “The justification for a University is that it preserves the connection between knowledge and the zest of life, by uniting the young and the old in the imaginative consideration of learning. The University imparts information, but it imparts it imaginatively. At least, this is the function which it should perform for society. A University which fails in this respect has no reason for existence.”⁴⁵ If it undertook its diverse educational and social purposes as it should, a University must have a commitment “to the spirit of truth,”⁴⁶ impossible in the absence of academic freedom and institutional autonomy. This is why the State should protect and support this institution as much as public health services. The richness of a nation lies both in its physical and cultural health and wealth. Instead “universities have a duty to save knowledge when it is threatened” even by providing “safe haven for threatened scholars” and ensure a medium free from censorship.⁴⁷

Modern society needs these secured oases in order to preserve its potential for imagination, to provide a buffer zone, a period free from pragmatism, cynicism, and overstated realism, to ensure a healthy maturation of the youth personality. Many studies have already revealed this mentorship, this formative role of the higher education, which is covered by customary economic, political and pragmatic perspectives on the University. Imagination, in order to develop and be disciplined, needs a sheltered environment where decisions, actions and consequences are not vital or radical as they are in real life. This is true both for teachers and students. “The task of a University is to weld together imagination and experience. The initial discipline of imagination in its period of youthful vigour requires that there be no responsibility for immediate action.”⁴⁸ The students need this transitory period of completely free thinking in their study domain, not to cope with the dreadful consequences of their potentially wrong intuitions and to have the peace to evaluate the various alternatives, views, perspective, methods unconstrained by the urgency and consequences of their application. “The combination of imagination and learning normally requires some leisure, freedom from restraint, freedom from harassing worry,

some variety of experiences, and the stimulation of other minds diverse in opinion and diverse in equipment.”⁴⁹

The University is then the institution which ensures the quality of civilization. It sustains the cultural and communal development by providing through teaching with well-developed persons (good attitude, enhanced values, emotional integrity, skill of thinking and interpersonal skills) and through research with knowledge and innovation. “From higher education benefits its students and the community as a whole. For both it develops what psychologists call affect: attitudes, emotions, motivation, values and interpersonal skills based upon feelings for others. It develops cognition: knowledge, perception and thought. And it develops adaptable occupational skills by the application of cognition and affect.”⁵⁰ In the past, the University accomplished unproblematically this function, essential for the advancement of civilization, to foster the requisite people of distinguished talent, because it was the institution destined for building the social elite.

The social pressure was toward high commitment and success in promoting truth and excellence equally to the University staff and its subject matters. The psycho-compartmental mechanisms of elevated conduct⁵¹ found in academic settings the most beneficial institutional environment for its plentiful development. In time, the progress of industrial and technological democratization abolishes these conditions and, correspondingly, social demand. Therefore, the University needs to readapt since its function is not naturally performed anymore while its elitist and elevated character diminished/dwindled.

9. The role

There is still something which has remained unchanged and here resides the preservation of the fundamental role of the University: in its unique and marvelous capacity of leveraging distinguished persons. However, this thing could not be done by standardizing teaching, over-specialization, streamlining efficient and effective schooling as educational decision makers seem to believe, and definitely not by transforming universities in professional schools.

Specialized education is a necessity (due the huge volume of knowledge) but it is a trouble, too. Specialization leads both to proficiency and ignorance, depth of particular knowledge and cultural obtuseness. And it is one of the first demands of pragmatic knowledge society. As the first industrialization period requires only halves or parts of a man,⁵² the modern technological economy needs, in most of its part, mostly lobotomized persons. The largest part of the concrete activities were replaced by machines, hence the system needs only specialized well-partitioned brains for operating those machines. For many, this fractured, shortened personality fostered by occupational and professional educations is not as much practical, maybe only an ethical problem. The University as a professional school,

which provide specialized one-dimensional training for its students is not only an outdated, but a dangerous enterprise. “Hegemony and a reductionist approach need to be changed. Another dimension, perhaps, is for our educators to think about the implementation of Liberal Arts Education, and cross-disciplinary programs which encourage the integration of various disciplines and focuses on a more broad based learning to achieve a deeper sense of appreciation of what is meant by living as a human, instead of merely a tool of the economy.”⁵³ This necessity of humanistic education is not understood by policymakers as long as the universities that are strong in the “hard” sciences are likely to obtain more and larger governmental grants than universities where strengths are concentrated in the humanities or social sciences.”⁵⁴

It has already been proved that humanistic disciplines and sciences have the ability of developing skills in analysis, written and oral communication, critical thinking and broadening the perspective of those who study them together with their cognition, culture and character.⁵⁵ They make students more sensitive to different cultures and philosophies; enhance their capacity to appreciate science, literature and the arts; and, overall, expand their capacity for understanding.⁵⁶ It is no use to know how to count if you don’t know how to interpret and understand what you count. And “at the heart of the liberal arts and fundamental to the humanities—and indeed central to much of scientific thought—is the capacity for interpretation, for making meaning and making sense out of the world around us. (...) Culture is synthetic and total. The pure specialist is the opposite of the man of culture. An association of specialists in different and limited fields of learning is not and cannot be a centre of culture. The University must be designed to encourage and facilitate the interchange of knowledge through which it can become a spiritual whole.”⁵⁷

This is the reason why we are talking about the Uni-Versity: not only about multi-disciplinarity or inter-disciplinary, as it is right now at best, but as a trans-disciplinary enterprise. The University establishment was designed in the course of time for this. It has facilities, experts, in the same place and also opportunities to undergone inter- and trans-disciplinary programs, but it has to be free of pressure to produce marketable and commercial results, and moreover, to have the State and community support. Otherwise, as it is the case of the modern multi-disciplinary University, it looks like a fancy Educational Mall where students could study everything but partially and successively. They can choose from various specializations, courses, degrees and construct whatever amalgamate, inconsistent and partially developed personality they complete.

But the twenty first century Higher Education could only be a global critical business,⁵⁸ an institution for nurturing not only highly trained employees for a particular domain, but also open-minded and knowledgeable specialized experts in various field able of critical thinking, self-reflection and autonomous action. The present methods that develop the formal “critical thinking industry,” “skills development,” “disciplinary competences” are just the instrumental counterparts of the substantial critical thinking. But they are easier

and hence extensively cultivated, and come to undermine the fundamental scope of the University that of nourishing self-independent, critical persons. Critical thinking restricted to the deployment of cognitive skills by individuals is inadequate, is “thinking without a critical edge,” a sort of “painting-by-numbers.”⁵⁹ The transformation accomplished by instrumental and specialized learning is only a horizontal development which generates stagnation at individual and social level. Teacher training departments and whole curricula promote rather a sort of instrumental methods for “check list” of cognitive skills, limited to operational competences. The academic teaching and learning should transform not only the students, but change the world further because they are ready to engage with the world through critical thinking. But this could not be made exclusively by specialized, professional and applied education. The liberal disciplines, art and philosophy should be interwoven, and not just formally, within any curricula. What is not understood is that the added value, the windfall of enhancement for the future life brought by liberal arts and philosophical thinking is invaluable and could not be ordinarily assessed.⁶⁰ This transversal overall competence empowers students to master their world, to understand and choose knowingly, to set the course of their own life and to enjoy living. No specialized knowledge, competence or skill could ensure an elevated, complete joyful life, precisely because it is a particular perspective of understanding.

Nonetheless, for the success of trans-disciplinary teaching, learning and research, a change is mandatory in our concept of reflexivity from individual (as entire tradition of philosophy had taught!) to a collaborative one. The postmodern and post elite University has a crucial mission, to call into being the Global Brain⁶¹ (the collective consciousness) of knowledge society. I consider, following Barnett, that students of such “critical University” would “be exposed to multiple discourses” (e.g. intellectual, practical, experiential, alternative); they should deal with “wider understandings, questionings, and potential impact of (their) intellectual field” (i.e. incorporate the epistemological and philosophical approach of their discipline). And lastly, a “committed orientation on the part of the student to this form of life” (i.e. the willingness and ability to see its own world from other perspectives, and hence, “the willingness to risk.”⁶²

10. The future

In the end one question arises: Would the University, democratized and world-widespread by now, be able to keep its superior standards of leveraging distinguished persons from its students or would it decay to ordinary organization of professional and occupational training and funding-oriented applied research centers? In other words, Will the University remain one of the most important driving forces of human civilization advancement or it will change into an auxiliary of social development, as long as Universities have gone

seriously astray from their legitimate course. “In a sociological sense, and having in mind the democratization of higher cultures among large proportions of the naturally able men and women in a large population, it is possible, even probable, that the larger expectations cherished by men of vision on behalf of the liberal college are calculated, if competently implemented, to realize for a democracy what Oxford and Cambridge have meant for an aristocracy.”⁶³

Unfortunately, as past American experience and present Romanian evidence indicate “any rebirth of the arts and sciences as the center of undergraduate education probably lies well in the future, at a time when the bachelor’s degree has become a preparatory degree for a majority of students who are planning to pursue postgraduate training, rather than the mass terminal degree it is today. And even in this distant future it is possible that the arts and sciences will become the preserve of a still smaller number of students and faculty than they are today, if they are further devalued by a society that has turned away from the types of intellectualism they reflect and sustain.”⁶⁴

More than that, if the present tendency stays unchanged some authors envisage such a level of degradation of education that the new aspirants to technical, economic or public school administration will not be able, except for an insignificant percent of them, to attend professional preparation on the basis of “broad training in fundamentals” and will limit to ultra-specialized functional training in a specific domain, which will be enough.⁶⁵ From here emerge ignorance, narrowing of mind and sensibility, and their natural effects: intolerance, selfishness, racism, hate and a general degradation of society.

If the true role of universities is not recognized, and *the academic community will not struggle to be at the level of such mission*, then Society will not permit the University to produce new knowledge, will limit its influence and power to contribute to its future development, and marginalize its participation in the process of settings its values and goals. In the future, the natural tendency of people for material and intellectual comfort - the advantageous state of ignorance for the policymakers – will lead to the regression of the human civilization in the absence of a counterbalancing institution recognized as trustful, objective and committed to true knowledge and humankind evolution while the Church and Government lose their influential prerogatives on this matter.

Notes

1. 11997 after <http://www.webometrics.info/en/world>. Other statistics suggests more than 17000.
2. The Japan Association of National Universities, “Enhancing the Functions of National Universities, – Pledge to the People –,” Interim report June 22, 2011.
3. This seems to be its inherited condition while first Universities were an exclusive masculine and celibate medium, the relations with communities and productive activities were insignificant.

4. G. Boulton and C. Lucas, *What are Universities For?* (Leuven: League of European Research Universities, 2008).
5. Alfred North Whitehead, "Universities and Their Function," in *The Aims of Education and Other Essays* (New York: Free Press, 1967), 91-101.
6. See for example, the system of private organizations for awarding qualification bodies, which offers a much cheaper, convenient, flexible, and faster way to gain approximate equivalence of academic qualification for many jobs developed in United Kingdom, which has a global (The Commonwealth) recognition.
7. *Academia*, as organization of elevate schooling and intellectual research, is older than *Universitas*.
8. Thomas S. Kuhn. *The Structure of Scientific Revolutions*. (3rd ed. Chicago, IL: University of Chicago Press, 1996).
9. F. W. J. von Schelling, "Upon the Scientific and Ethical Functions of Universities," trad. Ella S. Morgan, *The Journal of Speculative Philosophy* 11, 2 (1877): 163.
10. Whitehead, "Universities and Their Function."
11. Although this seems to be only a historical preconception, see Antonio R. Damasio. *Descartes' Error* (London: Papermac, 1996).
12. See the supposedly outdated and unproved membrane-pump theory kept by the present academic community as true, at the expense of cellular metabolism in cellular physiology. G. Ling, "History of the membrane (pump) theory of the living cell from its beginning in mid-19th century to its disproof 45 years ago--though still taught worldwide today as established truth," *Physiological chemistry and physics and medical NMR* 39 (1) (2007): 1-67.
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21. Iván Illich, *Deschooling society* (Harper & Row, 1971), 1.
22. The Rand Corporation, "Teachers Matter. Understanding Teachers' Impact on Student Achievement," http://www.rand.org/pubs/corporate_pubs/CP693z1-2012-09.html
23. E. g individual characteristics, family, neighborhood experiences which are outside school control.

24. E. g. previous experience of education or scores on licensure examinations. See also The Rand Corporation, "What Teacher Characteristics Affect Student Achievement? Findings from Los Angeles Public Schools" http://www.rand.org/content/dam/rand/pubs/research_briefs/2010/RAND_RB9526.pdf
25. Schelling, "Upon the Scientific and Ethical Functions of Universities," 167.
26. Abraham Flexner, *Universities: American, English, German* (New York: Oxford University Press, 1930), 6.
27. Schelling, "Upon the Scientific and Ethical Functions of Universities," 167.
28. Ron Barnett, *Higher Education: A Critical Business* (Buckingham: Open University Press / SRHE 1997).
29. The Japan Association of National Universities, "Enhancing the Functions of National Universities."
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32. Francis Bolger, "Function of a University," *Red and White* 37, 3 (1946): 96.
33. Bolger, "Function of a University," 96.
34. John M. Coulter, "Our Universities," *Science*, New Series, 43, 1119 (1916): 810-812.
35. F. W. J. von Schelling, "The Absolute Idea of Science," trad. Ella S. Morgan, *The Journal of Speculative Philosophy* 11, 1 (1877): 93.
36. Coulter, "Our Universities," 810-812.
37. Whitehead, "Universities and Their Function."
38. Whitehead, "Universities and Their Function."
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41. Due de diverse meaning assigned along the history by various authors to the concept of "liberal arts /sciences," and "liberal art education," the quality of liberal is used in this article for that sciences or humanistic disciplines (arts) or studies which forms the core of fundamental research (philosophy, literature, and abstract sciences like physics, chemistry, biology etc) oriented primary toward the *development of knowledge* opposed to programs and discipline which form the content of oriented for *occupational fields* of education as engineering, business, public administration, nursing and social work, education etc, close to the meaning of "liberal arts" from Merriam-Webster online dictionary: „college or university studies (as language, philosophy, literature, abstract science) intended to provide chiefly general knowledge and to develop general intellectual capacities (as reason and judgment) as opposed to professional or vocational skills." Merriam-Webster.com, url: <http://www.merriam-webster.com> (10 September 2013).

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60. Shannon Rupp, "Be Employable, Study Philosophy," TheTyee.ca, 27 Jun 2013, <http://thetyee.ca/Mediacheck/2013/06/27/Study-Philosophy/>.
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62. See Barnett, *Higher Education*, 167-169.
63. David Snedden, "Functions of the University," *The Journal of Higher Education* 2, 7 (1931): 384-389.
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- *** <http://www.webometrics.info/en/world>. Among those who felt uncomfortable with the two insights, some complained that it is mysterious how we know anything abstract, in particular the abstracta that appear in the truth conditions of the sentences of mathematical languages. The lesson they drew was that they had to meet a challenge. The challenge, of course, was to give an account

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Abstract: *The objective of this study is to identify which of 5 communication channels — newspapers, television, radio, the Internet, interpersonal communication — affect the strongest people's mental maps of their city's neighborhoods and how these mental maps influence, in turn, the civic well-being in these neighborhoods. The site of our research is Lexington, Kentucky. The study relies on a communication infrastructure research paradigm. This proposes that residential neighborhoods are the places where people most sensually experience the conditions of everyday life. The quality of our social life depends on the viability of our neighborhoods, whose vitality is influenced by a number of social and physical processes, of which central are considered those of communicative and psychological nature.¹*

Keywords: *mental maps, communicative exchange, communicative infrastructure, civic well-being, social space.*

“GOOD” AND “BAD” NEIGHBORHOODS: PERCEPTIONS AND REALITY. THE IMPACT OF COMMUNICATION CHANNELS ON PERCEPTIONS OF NEIGHBORHOOD CIVIC WELL-BEING IN LEXINGTON, KENTUCKY (I)

Urban communities need to tell stories about themselves if they are to emerge as distinct social entities; they need to imagine themselves as communities. The stories that are told about an urban/residential area are incorporated in the way in which people imagine themselves as a community — that is, they will become part of their communicative context. Perception of one's immediately surrounding residential environment is directly impacted by the communication media available to him/her. This perception is encapsulated in mental images and maps that tell residents what areas of the social space in which they live should be avoided or frequented. These maps and perceptions are the product of communicative exchanges, which develop within the storytelling communicative infrastructure. This assumption leads to our main theoretical model, which proposes that mass media is a necessary element in the construction of mental maps of a specific urban community. Mental maps guide everyday movements around the urban environment and most importantly motivate personal investment in a specific area or areas. In essence, our model postulates that mass media coverage leads to mental maps which, in turn, can enhance or hinder civic life.

1. Methodology and research questions

To explore these issues we have collected through a random digit dialing telephone survey information from 801 Lexington residents. The survey provides the raw material for building a number of mental maps of “avoidance” and “desirability” of Lexington neighborhoods. “Avoidance” and “desirability” refer to residents’ perceptions that the neighborhoods are bad or good locations for buying a home. Using information about the neighborhoods provided by the Census Bureau and by the Lexington Police Department, we explored the following research questions:

1. *What factors contribute the most to creating the perception that a neighborhood is to be “avoided”?*
2. *What factors contribute the most to creating the perception that a neighborhood is “desirable”?*
3. *How do the media that contribute to perceptions of avoidance or desirability affect the civic potential in Lexington’s neighborhoods?*

The units of analysis used in the study are 57 Census Bureau-defined urban neighborhoods located in Lexington, KY. Scores of desirability and avoidance determined for each neighborhood were used as dependent variables in a number of multiple regressions. The variables were predicted using a number of explanatory factors: neighborhood level of crime, ethnic composition, real estate value, and amount of influence various channels of information have on shaping perceptions of “avoidance” and “desirability.”

2. Findings

The main findings of the study are:

1. *The perception that Lexington is characterized by a North-South divide is real.* This manifests itself both at socio-demographic and perceptual level. The North side of town is characterized by higher level of crime (see Figures 3-5 in the Appendices) and is considered to be an area that should be avoided (see Figure 6 in the Appendices). The Southern area, a high-growth zone (see Figure 1 in the Appendices), is considered more desirable (see Figure 7 in the Appendices) than the other areas of the town.

2. *Neighborhood avoidance is best predicted by crime and the medium most responsible for conveying the bad news is television,* whose local programs have most powerfully shaped Lexingtonians’ mental maps of avoidance. Thus, avoidance in Lexington is based on a real problem, crime, which is made salient by a specific medium: television.

3. *Neighborhood desirability is connected with objective neighborhood characteristics: low population density and a higher proportion of college educated residents.* Preference for areas with college educated residents highlights the fact that *neighborhood desirability has more to do with the people living there than with the value of the houses.*

4. *High civic potential neighborhoods, where “belonging”² is higher, are more likely to be known for what they have bad through newspapers and for what they have good through word of mouth (interpersonal communication).* Also, neighborhoods with higher belonging do not live up to their full potential when it comes to desirability, they are less, not more likely to be “desirable”.³

5. *The communication infrastructure model is valid:* mass media has a detectable influence on the mental maps of “avoidance” and “desirability,” which in turn seem to be connected with the spatial distribution of civic potential in Lexington.

3. Recommendations

In view of these findings, our recommendations are:

1. To mitigate the psychological effects of crime on the neighborhoods affected by it, *local television stations should be made aware of the unique role they play in identifying the areas to be avoided.* Station managers and editorial personnel should be sensitized to the deleterious role stereotypes, even if justified, can have on the public and to the long terms effects a persistent barrage of bad news can have on the residents of an area afflicted by high crime.

2. Local newspapers have a particular role in identifying the “bad” spots in the high belonging neighborhoods. To maintain the level of civic potential in these areas *the local newspapers should be made aware that they can maintain the stigma if their coverage is not sensitive to stereotypes.*

3. Lexington’s high belonging neighborhoods are the “hidden gems” of the town. Their prestige is discrete and mainly based on interpersonal communication. Since, by definition, the reach and impact of interpersonal communication is more fragmented and diffuse than that of mass mediated communication, a “more of the same” strategy for consolidating high belonging, as the one suggested above for diminishing the “avoidance” impact of print media, might not be appropriate. Good, high belonging neighborhoods need to be made known to the city through more than word of mouth. Their “muted fame” should be enhanced through all local mass media’s voices. *Our final recommendation is to make the local media aware of the fact that what is good about high civic potential neighborhoods does not reach the Lexington population through their pages or broadcasts and that media should promote neighborhood accomplishments in a more sustained way.*

4. Studying civic vitality through mental mapping

The cornerstone question of this study is: what mass media channels influence the mental maps of safety, prestige and civic potential in Lexington? In addition, we are also interested to find out how these imagined (mental) maps match or mismatch the socio-

demographic reality of the areas they cover. Most important, do they match the distribution of social anchoring and civic potential found in the Lexington neighborhoods?

The study uses a spatial perspective for understanding social phenomena.⁴ This approach advances a number of new ideas and methodologies, traditionally ignored in communication/civic ties research. Classical research on the relationship between mass media and community life focuses mainly on how individual media use or media exposure afford social ties or engaging in collective action.⁵ The overarching research question is if media consumers are more or less likely to be involved in the life of their local communities. The typical predictors for involvement and civic potential are personal or, at the most, household-level variables: income, education, ethnicity, political orientation, marital status, etc. A complementary question traditional research addresses is if community involvement explains engagement with local media. Although the related issues of community-level vitality and civic health are discussed and explored in classical literature, this is usually done indirectly. Higher individual social involvement and civic participation are supposed to translate into net benefits for the community as a whole. This approach alternates between the largest and smallest units of analysis. For example, the conclusions drawn at the smaller unit of analysis, individual behaviors and effects, are extended to the largest possible unit of analysis, the city as a whole. While not an unwarranted assumption, this usually biases the research toward an individual-level perspective. This risks an important methodological fallacy: assuming that what is true for individuals will also be true for the community as a whole. This reasoning can be questionable because it ignores the possibility that communities can be more than the sum of their parts.

The present report addresses the issue explored by traditional research — how does mass media influence civic life in urban communities — armed with two new methodological instruments/procedures. First, it attempts to answer the question relying on data about social and geographic *communities*, not individuals. In our study, neighborhoods are the primary units of analysis. Second, we propose and develop specific measurement tools for capturing the role of an intermediate link between media consumption/exposure and civic vitality: mental maps.

The analysis and the tools proposed here are articulated into a communication infrastructure model, which directs the entire discovery strategy of this report.⁶ We shall thus start with it. After presenting it we will discuss the complex layered geography of Lexington and the concrete research questions they lead to. Finally, after briefly presenting the methodology, we will summarize the statistical analyses and the findings of this study.

5. The communication infrastructure model

Residential neighborhoods are the places where people most sensually experience the conditions of everyday life. The quality of our social life depends on the viability

of these neighborhoods. Their vitality is influenced by a number of social and physical characteristics: economic, social, political, cultural, psychological and communicative. The communicative aspect of the urban infrastructure and its spatial-psychological facets are the issues we are most concerned with in this report.

5.1 Origins and description

A communication infrastructure is a *storytelling system set in its communication action context*. We believe that such infrastructure is important because social life and social interaction is first and foremost the product of communicative processes. We make friends, vote, and participate in civic life through communicative exchanges. Our communication infrastructure research framework builds on a number of communication traditions: cultivation,⁷ agenda setting,⁸ the two-step flow of communication,⁹ and media dependency theory.¹⁰ Of these, the last one is the most important. This theory proposes that social action is impossible in absence of communication and that in everything we do we depend on a number of specific communication channels. In the present report we extend this idea by proposing that communication channels influence our mental maps.¹¹

A communication infrastructure includes two basic components — *the communication action context* and *the multilevel storytelling system*. The first element includes the physical, psychological, socio-cultural, economic and technological dimensions of everyday social interactions. Of them, and of particular importance here, are the psychological ones. These concern whether people feel free to engage one another, such as their level of comfort in specific socio-geographic space.

The storytelling system, which interacts with the communication context, includes storytelling agents organized at three levels: macro, meso, and micro-social. At the macro- level are situated large media, political, religious, and other central institutions or organizations that have storytelling production and dissemination resources (e.g., mainstream media and agencies or corporations with public information/relations capacities). At the intermediate or meso level are the smaller and more locally based organizations whose primary goals concern one or another form of linkage in a particular residential area. These include community media and community organizations targeted to residents. Interpersonal networks constitute the third, micro-tier of the storytelling system.

5.2. Mental maps and communication channels

Urban communities need to tell stories about themselves if they are to emerge as distinct social entities they need to imagine themselves as communities. The kinds of stories told about an urban/residential area will be incorporated in the way in which people imagine themselves as a community — that is, they will become part of their communicative context.

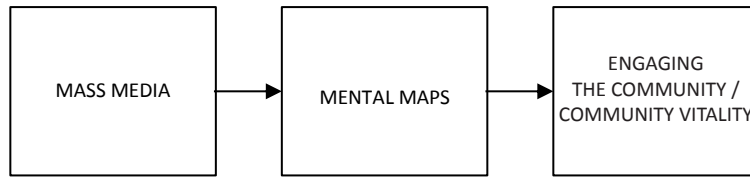
Perception of one's immediately surrounding residential environment is directly impacted by the communication infrastructure.

This perception is encapsulated in mental images and maps that tell residents what areas of the social space in which they live should be avoided or frequented. These maps and perceptions are the product of communicative exchanges, which develop within the storytelling communicative infrastructure. Although subjective constructs, mental maps are quite stable and with a certain degree of intellectual imagination quite simple to detect. Throughout this report, as in our previous work, "mental maps" refer to an inventory of subjective characteristics associated with specific areas of an urban area. These characteristics refer mainly to feelings of "fear"/"comfort" or "desirability"/"avoidance" toward areas in one's residential area. Such maps can be "made real" by asking respondents to associate locations on a geographic map with words or colors. In the case of this study, respondents were asked to indicate what areas (identified as zones around a cross-street) would they recommend to an out-of-town friend to buy or to avoid buying a house in.

The maps and our more general perceptions of space are influenced by the nature and quality of the exchanges transacted within a storytelling-system. Since communication infrastructures also have, in our view, a central role in enhancing or dampening civic life, the social-spatial perceptions they generate will have an equally important effect on the larger civic and social viability of urban areas.

5.3. Communication infrastructure model summary

A distinctive characteristic of our approach is the attempt to capture the relationship between media and construction of social space. To achieve this we envision neighborhoods as focal points of a complex process of storytelling. Due to our more general theoretical concern of understanding how the communication infrastructures of urban residential areas operate to enable or constrain the sense and reality of community, we are particularly sensitive to the interplay of storytelling at the macro-level of analysis (mass media, and especially newspapers and television). This feature of the approach is discussed in several of our previous papers.¹² For present purposes, suffice it say that we assume that people need mass communication to orient in their environs. Mass media is a necessary element in the construction of mental maps of a specific urban community. The classical notion that media perform a surveillance function is especially germane when considering the impetus for residents of urban areas to construct area specific images in order to situate themselves as social actors. Surveillance, however, is not likely to be limited to a media function; rather, the mental maps guide everyday movements around the urban environment and most importantly motivate personal investment in a specific area or areas. In essence, our model can be resumed as follows:



We have used this model of interaction between mass media and perception of space in our previous work, mostly conducted in Los Angeles ethnically-marked neighborhoods. There, we found a number of factors that can influence mental maps and consequently the civic vitality of an area. We found that the most feared areas of Los Angeles are those inhabited by African-American populations or by a combination of African-Americans and Latinos.¹³ Surprisingly, or not, the spatial distribution of fear did not match the crime distribution in the city; that is, areas perceived as being the most feared were those that were uniquely dominated by these two ethnicities, not those characterized by the highest level of crime. We have also identified Watts, a neighborhood made famous by the 1965 Los Angeles riots, as the “fear epicenter” of Los Angeles and have linked this fear to the memory of the 1965 events.¹⁴ Throughout our studies we found that television consumers are more likely to depict specific areas — those inhabited by African-Americans — as feared.

In the present study we pursue similar questions using a similar methodology. The main focus, now, is to understand what types of media contribute to the social desirability or avoidance of specific Lexington neighborhoods. More important, we want to find out if the effect of these media of communication is felt above and beyond the social and demographic characteristics of a specific area, and its level of criminality or ethnic composition. Second, we also want to find out if the level of “avoidance” that characterizes any particular neighborhood matches or not its potential for civic vitality.

6. Lexington’s multilayered geography: insights and questions

This section profiles the socio-perceptive profile of Lexington with a focus on its main social and psychological divide: that between the North and South areas of town. The description will emphasize the multilayered structure of Lexington’s geography and the biases that exist at the level of each layer. The socio-demographic, crime and mental geographies of the city will be presented individually, each with its spatial biases. Specific attention will be given to the extent to which the North-South divide exists in these layers and what the significance of this divide might be. In the process we will describe and compare how the spatial patterns in these maps match or mismatch. The goal of the entire discussion is to set up the main operational research questions and the main statistical analyses. The data presented here is detailed in section 7. The findings are presented in section 8.

6.1 Lexington: growth and divides

Situated in the heart of Kentucky, Lexington has always been a regional cultural, economic and social powerhouse. Founded in 1779 and incorporated in 1781, the city was for a while one of the important manufacturing centers of the early West. Over the years, however, it has become more closely associated with the race horse industry (there are two major race tracks in Lexington, Keeneland and The Red Mile), higher education (the 30,000 student campus of University of Kentucky is located here), and in the last several decades with the high tech and manufacturing industries (IBM has started and then divested of a very successful printer company, Lexmark and only 20 miles away is the largest Toyota manufacturing plant in the US).¹⁵ The city has traditionally attracted the better educated and more entrepreneurial Kentuckians from the North-Central area of the state, but also from Southern Indiana and Ohio. Its growth was steady and quite pronounced toward the middle of the last century. As the table below indicates, the growth peak was reached between 1940 and 1960, when the city population doubled. Although considerably slower, the growth has continued during the 1970s and 1980s, with a tendency of picking up the pace in the 1990s, although not at the same level as during the 50s or the 60s.

6.2 The North-South Divide

The main consequences of urban growth were successive waves of territorial expansion, newer and more expensive housing tracts being added to an outer ring of residential neighborhoods.¹⁷ As the map in Figure 1 shows (see below), two demographic divides have emerged over the years: a North-South and an inner-core / outer rim one. The red or the brown colors in Figure 1 map indicate population increases between 1990-2000, while yellow shades indicate population decline (maps listed after the reference list). While the downtown and a cluster of older adjacent neighborhoods have lost the highest number of residents, the Southern and outer neighborhoods have consistently and increasingly added population, in some cases doubling and tripling their size.

This boom and its spatial orientation have become a source of debate and conflict in Lexington.¹⁸ Many oppose any kind of further growth. Their goal is to protect the farms surrounding the town. The farms are usually associated with the horse racing industry, and are a very important source of local pride and a great tourist attraction. Others, while not less concerned with the fate of the horse race farms, support a policy of selective growth. They point to the fact that the 1958 strategic plan has intentionally channeled the development of the city toward South, so that the most valuable and viable farms would be spared the development.¹⁹

Yet, a third camp points to the fact that the development toward South is not just a consequence of selective conservationism but also an attempt to disinvest from the neighborhoods populated by the poorer African-American population, which coincidentally or not are also located on the North side of the town (see Figure 2).²⁰

Year	Lexington/Fayette County population	Ten-year growth rate (%)
2000	260,500	15.59
1990	225,366	10.38
1980	204,165	17.12
1970	174,323	32.16
1960	131,906	30.93
1950	100,746	27.69
1940	78,899	15.11
1930	68,543	25.39
1920	54,664	14.56
1910	47,715	13.42
1900	42,071	

Table 1. Demographic Change in Lexington 1900-2000¹⁶

The terms of this debate shape a good part of the social and political life in Lexington. Because of its racial overtones, the North-South divide is a particularly sensitive one. Despite of the fact that over the years the North and the downtown areas were repeatedly injected with funds and real estate developments — including subsidizing stores, theaters and restaurants in the downtown area and strategically positioning several high-tech industrial parks on the North end of town — the areas are perceived as being dangerous, unsafe and generally undesirable. This fact was repeatedly disputed over the years by community activists.

6.3. The North-South divide and crime

However, it is quite clear that density of crime is indeed far higher in the downtown and North side of town, as data compiled from 12,000 police reports filed between July 2000 and July 2001, indicates (Figure 3). This image changes somewhat if crime incidence is weighted by the size of the population in the areas affected and by the gravity of the crimes committed there (see Figure 4). When these two factors are taken into account and when mapping the data at neighborhood level, as Figure 5 indicates, the areas with the highest number of crimes per capita weighted by gravity are still concentrated in the downtown and surrounding areas. In addition, elevated levels of crime are present in the South-East neighborhoods, which are also some of the fastest growing areas of Lexington (see Figure 1).

The shift in emphasis detected in the crime map, upon weighting crime density by population size and gravity, does not succeed, however, in erasing the North-South divide. And this is, in the end, reflected in the images of the areas that are “to be avoided” and that are “most desirable” Lexington residents carry in their minds. These images, captured through a telephone survey conducted in August-October 2002 (see next section for details), indicate that the most avoided areas are clustered in the downtown area, extending North and in two distinct subgroups: South-West and South-East (Figure 6).

6.4. The North-South divide and civic potential

Lexington’s civic life is shaped not only by the debate about the match or mismatch between crime and perceptions of crime. A related debate surrounds the impact of unequal development on the civic fabric of the city.²¹ Lexington’s growth meant an influx of out-of-towners and an outflow of old time residents to outlying communities (Georgetown, Nicholasville, etc).²² In fact, many communities just outside Lexington have grown at a far higher pace over the last several decades, precisely due to Lexington’s own transformation. Some of Lexington’s neighboring counties (Jessamine, Garrard, or Anderson) have grown between 1990-2000 by 30%, a rate double that of Lexington, while Scott county, also in the immediate proximity of Lexington, and home of the Toyota factory, has grown by 39%.²³ Does this population outflow also mean a social drain of talent and social capital, as well?

The same data, collected through the telephone survey, suggests that growth in Lexington is not associated with a growth in civic ties. Using answers to eight survey questions to compute an index of civic vitality (“Belonging Index”), which captures how anchored to their neighborhoods Lexington residents are, we uncovered a map of belonging that, paradoxically, overlaps with the crime maps. As shown in Figure 8, the spatial structure of belonging has a core-periphery and North-South structure, which resemble, to a certain degree, the geography of crime (see Figure 5 above).

The paradox, however, is that the areas that have the highest level of belonging are situated in the stigmatized zones. Civic potential seems to be most present in the areas that face the greatest challenges. Also, areas with lower levels of civic potential are the ones with the highest rate of growth and “desirability,” which suggest that growth does not equal civic vitality.

6.5. Research Questions

In conclusion, Lexington presents a complex and challenging picture. Particularly intriguing are the patterns that emerge from the various layers and the way in which these patterns converge (or not). One very important question that emerges is: what is the

goodness of fit between the “avoidance” or “desirability” maps and the socio-demographic maps? Going back to our theoretical model, the maps also invite us to test the proposition that communication channels might influence the shape of these mental maps. Finally, there is the intriguing insight that the patterns for stigmatization and civic potential go in opposite directions.

To facilitate the exploration of these issues in a systematic manner we propose three research questions:

1. *What factors contribute the most to creating the perception that a neighborhood is to be “avoided”?*
2. *What factors contribute the most to creating the perception that a neighborhood is desirable?*
3. *How do the media that contribute to perceptions of avoidance or desirability affect the civic potential in Lexington’s neighborhoods?*

Notes:

1. This article is based on a research report submitted by the author to the University of Kentucky in 2003, bibliographically updated in 2013.
2. Belonging was measured as “number of neighbors known well enough to...” and as evaluation of neighborly spirit in the community. Eight questions were combined into one synthetic score of “neighborhood belonging”.
3. It is important to note that the findings indicate NOT an elevated level of avoidance, but a lower level of desirability. Desirability and avoidance are two independent measures, and scoring high on one does not necessarily mean a low score on the other.
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APPENDICES

Appendix 1: List of tables:

- **Table A: Lexington-Fayette County – Main Socio-Demographic Indicators**
- **Table B: Lexington-Fayette County – Business Characteristics**
- **Table C: Lexington-Fayette County – Geography Characteristics**

Table A. Lexington-Fayette County – Main Socio-Demographic Indicators

Demographic Characteristics	Fayette County	Kentucky
Population, 2001 estimate	260,414	4,065,556
Population percent change, April 1, 2000-July 1, 2001	0.0%	0.6%
Population, 2000	260,512	4,041,769
Population, percent change, 1990 to 2000	15.6%	9.6%
Persons under 5 years old, percent, 2000	6.2%	6.6%
Persons under 18 years old, percent, 2000	21.3%	24.6%
Persons 65 years old and over, percent, 2000	10.0%	12.5%
Female persons, percent, 2000	50.9%	51.1%
White persons, percent, 2000 (a)	81.0%	90.1%
Black or African American persons, percent, 2000 (a)	13.5%	7.3%
American Indian and Alaska Native persons, percent, 2000 (a)	0.2%	0.2%
Asian persons, percent, 2000 (a)	2.5%	0.7%
Native Hawaiian and Other Pacific Islander, percent, 2000 (a)	Z	Z
Persons reporting some other race, percent, 2000 (a)	1.2%	0.6%
Persons reporting two or more races, percent, 2000	1.6%	1.1%
Persons of Hispanic or Latino origin, percent, 2000 (b)	3.3%	1.5%
White persons, not of Hispanic/Latino origin, percent, 2000	79.1%	89.3%

Living in same house in 1995 and 2000, pct age 5+, 2000	42.5%	55.9%
Foreign born persons, percent, 2000	5.9%	2.0%
Language other than English spoken at home, pct age 5+, 2000	8.3%	3.9%
High school graduates, percent of persons age 25+, 2000	85.8%	74.1%
Bachelor's degree or higher, pct of persons age 25+, 2000	35.6%	17.1%
Persons with a disability, age 5+, 2000	42,433	874,156
Mean travel time to work, workers age 16+ (minutes), 2000	19.3	23.5
Housing units, 2000	116,167	1,750,927
Homeownership rate, 2000	55.3%	70.8%
Housing units in multi-unit structures, percent, 2000	36.5%	17.7%
Median value of owner-occupied housing units, 2000	\$110,800	\$86,700
Households, 2000	108,288	1,590,647
Persons per household, 2000	2.29	2.47
Median household money income, 1999	\$39,813	\$33,672
Per capita money income, 1999	\$23,109	\$18,093
Persons below poverty, percent, 1999	12.9%	15.8%

Table B: Lexington-Fayette County – Business Characteristics

Business Characteristics	Fayette County	Kentucky
Private nonfarm establishments, 1999	7,776	89,946
Private nonfarm employment, 1999	144,176	1,469,315
Private nonfarm employment, percent change 1990-1999	17.2%	23.9%
Nonemployer establishments, 1999	15,510	222,304
Manufacturers shipments, 1997 (\$1000)	4,313,912	86,636,107

Retail sales, 1997 (\$1000)	3,133,071	33,332,675
Retail sales per capita, 1997	\$13,078	\$8,530
Minority-owned firms, percent of total, 1997	4.8%	4.5%
Women-owned firms, percent of total, 1997	23.6%	23.4%
Housing units authorized by building permits, 2000	2,544	18,460
Federal funds and grants, 2001 (\$1000)	1,373,457	25,835,136
Local government employment - full-time equivalent, 1997	9,313	134,740

Table C: Lexington-Fayette County – Geography Characteristics

Geography Characteristics	Fayette County	Kentucky
Land area, 2000 (square miles)	285	39,728
Persons per square mile, 2000	915.6	101.7

Legend for the symbols that appear in the tables A, B, C:

- (a) Includes persons reporting only one race.
- (b) Hispanics may be of any race, so also are included in applicable race categories.
- Z: Value greater than zero but less than half unit of measure shown
- FN: Footnote on this item for this area in place of data.

Source: U.S. Census Bureau (<http://quickfacts.census.gov/qfd/states/21/21067.html>): State and County QuickFacts. Data derived from Population Estimates, 2000 Census of Population and Housing, 1990 Census of Population and Housing, Small Area Income and Poverty Estimates, County Business Patterns, 1997 Economic Census, Minority- and Women-Owned Business, Building Permits, Consolidated Federal Funds Report, 1997 Census of Governments.

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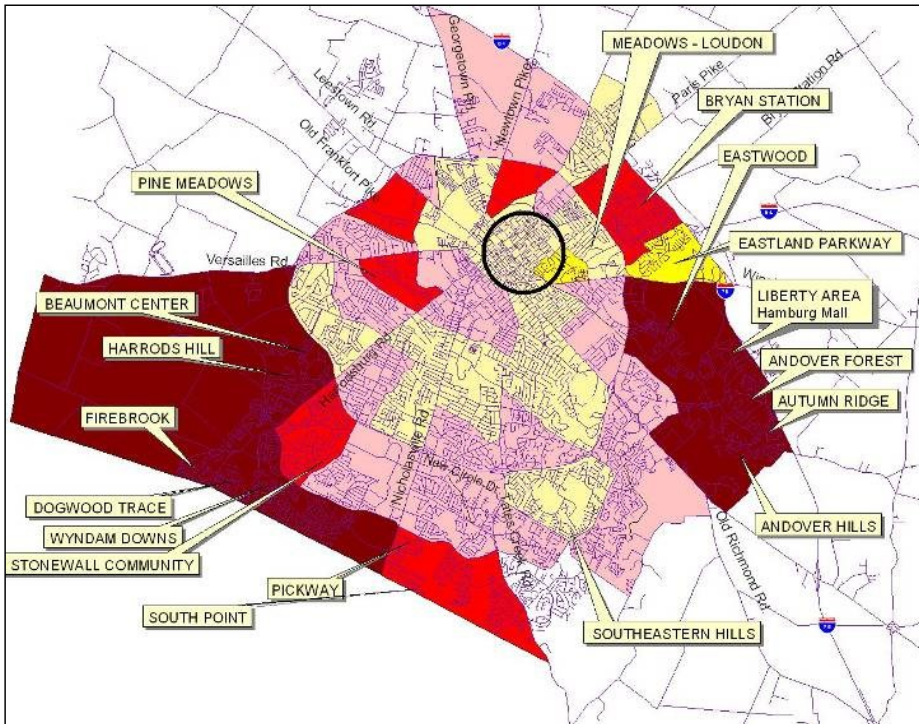


Figure 1. Lexington main neighborhoods and areas of growth. Red and brown indicate population gain between 1990-2000. Yellow and intense yellow indicate areas that have lost population. Data summarized at neighborhood level. Source: 1990 and 2000 US Census.

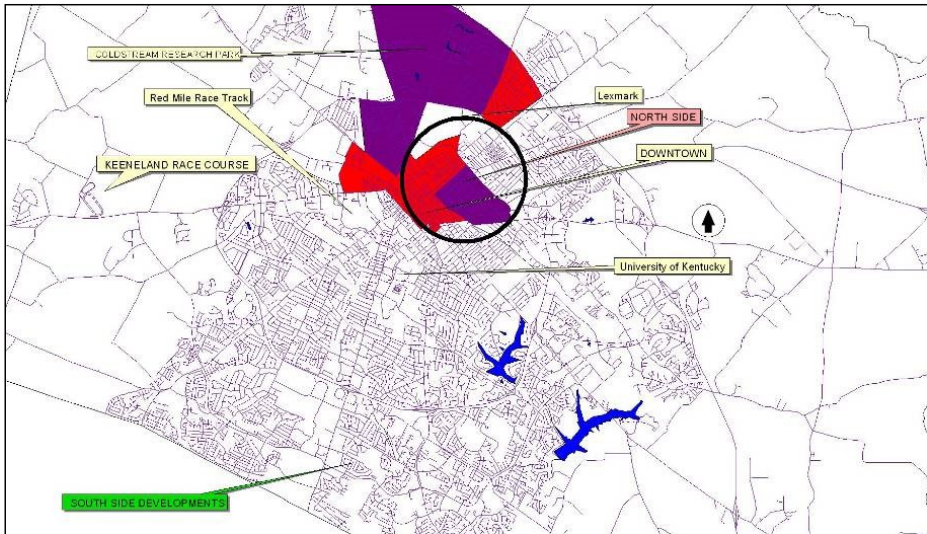


Figure 2. Main Black-population concentrations in Lexington. Red=25%-50% Black residents. Purple=over 50% Black residents. Data summarized at neighborhood level. Source: 2000 US Census.

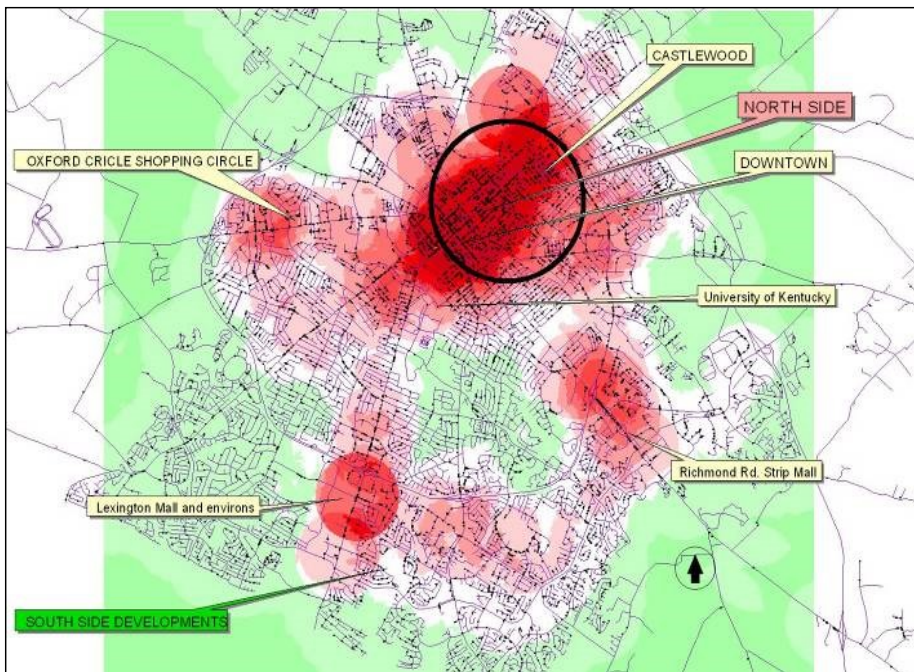


Figure 3. Crime density in Lexington. Red = crime density above the city mean. Green = crime density below the city mean. The darker the red, the denser the crimes. Black dots indicate specific crime locations. Values for areas between locations interpolated through statistical procedures. Source: Author's analysis of Lexington Police Department crime reports.

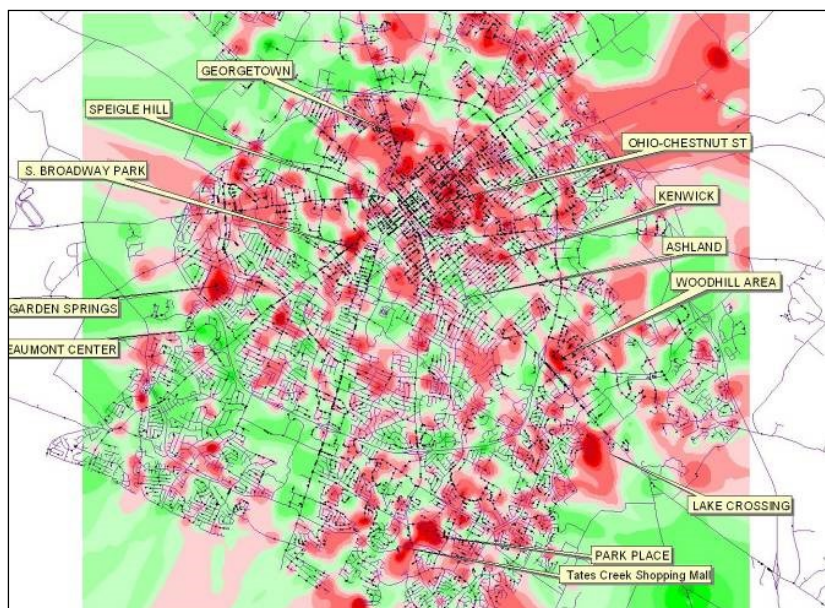


Figure 4. Crime distribution in Lexington weighted by gravity. Red indicates that the crimes are more serious than those committed, on average, in the rest of the city. In green areas crimes are less serious than those committed in the rest of the city. Black dots indicate specific crime locations. Values for areas between locations interpolated through statistical procedures. Source: Author's analysis of Lexington Police Department crime reports.

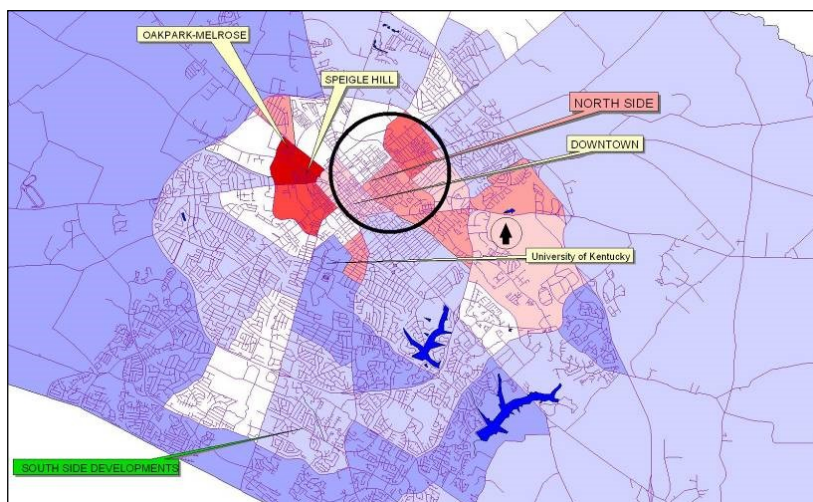


Figure 5. Crime incidence in Lexington weighted by gravity and population. Colors represent how far from the city mean each neighborhood scores in terms both of gravity and number of crimes per capita. Intense red and burgundy/brown colors indicate that the neighborhoods are 2 or more standard deviations above the city mean in terms of crime. Blue colors = values under city mean. Data is summarized at neighborhood level. Source: compiled by the author from data provided by the Lexington Police Department.

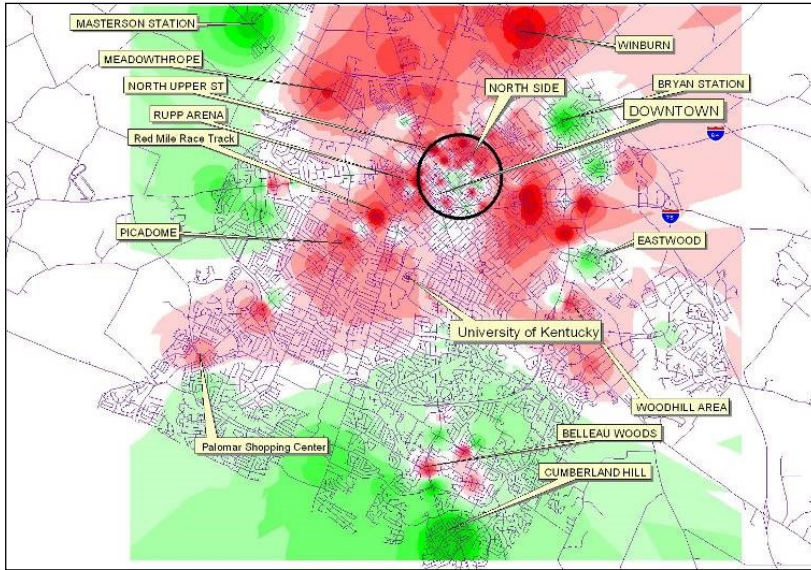


Figure 6. Lexington neighborhoods' "avoidance" level. Red areas indicate that the neighborhood is perceived as more "avoidable" than average. Green areas are less "avoidable" than average. Map obtained through interpolation. For a definition of "avoidance" see Section 3 of present report. Source: Lexington neighborhood study.

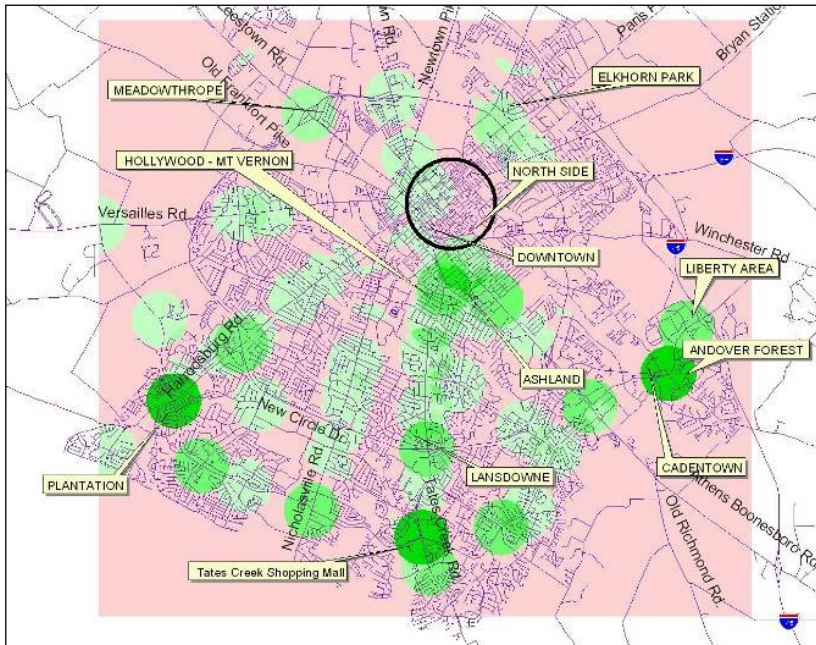


Figure 7. Density of desirable areas in Lexington. Green circles indicate areas of maximum density of desirable areas. Pink areas have no neighborhoods deemed as "desirable." Source: Lexington Neighborhood Survey

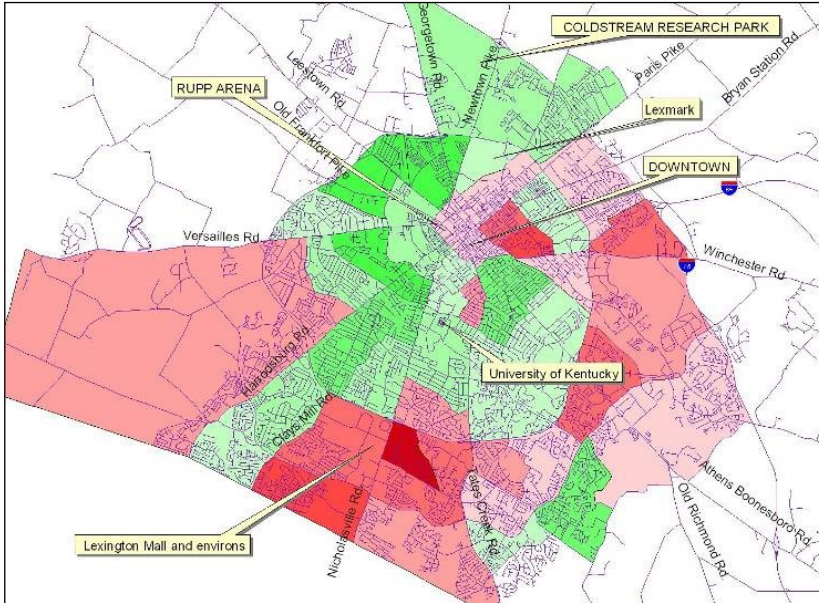


Figure 8. Lexington neighborhood belonging levels. Green = belonging above the city mean, Red = belonging under the city mean. Data summarized at neighborhood level. Source: Lexington neighborhoods survey.

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Abstract: *This essay explores the location of rationality in intercultural communication, specifically critical intercultural communication research. Proceeding from an understanding of culture and intercultural exchange as a product of historical/structural forces with embedded formations of power, critical intercultural communication arises in opposition to longstanding dominant paradigms predicated on tenants of objectivity and the formulaic evaluation of claims. We highlight several scholars who have guided attention to the manner in which such traditional notions of rationality often serve to obfuscate alternative configurations of knowledge and social life. In doing so, we suggest that critical intercultural communication affords a broader understanding of rationality, one that rejects universalism, acknowledges the ubiquity of power and privilege in its construction, the multitude of its formations, those cultural experiences displaced by its traditional conception, and one that embraces layers and contradictions long dismissed as irrational. We begin by exploring the various manifestations of rationality within the cornerstones of communication studies. Subsequently, we address the ascension of critical perspectives brought about by interpretive anthropology, feminist studies, and postmodern criticism. Finally, we locate rationality within intercultural communication and critical intercultural communication in particular.*

Keywords: *Rationality, Intercultural Communication, Critical Intercultural Communication, Philosophy of Communication, Communication Studies.*

RATIONALITY AND CRITICAL INTERCULTURAL COMMUNICATION RESEARCH

1. Rationality and Critical Intercultural Communication Research

In the U.S., interest in the philosophy of communication is in decline. Perhaps this is due to the pragmatic and applied nature of our scholarship. Or perhaps philosophical inquiry has simply taken another form. New research programs such as performance auto ethnography and critical intercultural communication studies are implicit critiques of a

former research paradigm clothed in objectivity, control and demonstration. As allies in the inquiry into human meaning making and interaction, the continued reflection on our assumptions and arguments is vital and constructive in many ways and perhaps the most important is building relationships across the international, cultural and disciplinary borders that typically keep our work apart.

Provoked by the theme of this issue, our goal in this article is to make a few observations about the relationship between notions of rationality and critical intercultural communication studies. Central to the study of intercultural communication is the notion that “culture is an idea for recognizing and understanding how groups create communities and participate in social activities”¹ and for examining what happens when a member of one cultural group communicates with a member of another cultural group. Critical intercultural communication “foregrounds issues of power, context, socio-economic relations and historical/structural forces as constituting and shaping culture and intercultural encounters, relationships and contexts”.² This alternative arises in response to the social scientific and interpretive approaches prevalent from the 1970’s to the 1990’s. We take rationality to be a concept that is helpful to understanding the *sensibility* or the *scheme for reconciliation* among arguments, values and social action. But we also take rationality to be culture-bound even as terms such as “reason” and “argument” often pose as universal constructs. As we note below, many before us have problematized rationality and commented on its *unmarked* quality. We simply want to highlight several implications of rationality as a cultural artifact when approaching critical intercultural research.

First we examine several formulations of rationality within the cornerstones of communication studies, next we point to the emergence of critical perspectives advanced from interpretive anthropology, by feminist studies and through postmodern communication criticism. Finally we situate rationality within intercultural communication (IC) studies and specifically critical intercultural studies.

2. Disciplinary Anchors

The influence of the Greek and Roman philosophers is inestimable in communication studies. Bizzell and Herzberg³ noted, “The fundamental concerns of rhetoric in all ages appear to be those defined in the classical period ...” Plato’s notions of “real” truth and “divine” truth as described in the *Phaedrus*⁴ reside in contemporary absolutist discourses and the recommendations for audience analysis in current public speaking pedagogy have their roots in the cultural descriptions found in Aristotle’s *Rhetoric*.⁵

Aristotle’s formulation of the enthymeme makes clear that he had in mind non-philosophers or “hearers who cannot grasp many points in a single view” who would be concerned with general topics of deliberation.⁶ The enthymeme was a form of syllogistic rationality that dealt with contingent knowledge and probability — famously, the realm of rhetoric rather than dialectic. For Aristotle, the first premise of the enthymeme drew upon common, or cultural, knowledge. In other words, “enthymemes are powerful because they

are based in community beliefs”.⁷ At the same time, the common premises that were so taken-for-granted that they could remain suppressed or unstated in an argument reflected a dominant worldview.

While the contributions are profound, the thinkers of the classical era anticipated a monocultural environment with a common approach to reasoning and deliberation. In his characterizations of human emotions, stages of life, etc., Aristotle assumes a common life experience. For all of their brilliance in developing methods for public valuing and deliberation, the Greeks were ultimately ethnocentric in their disposition. Even in his counters to “prejudice”,⁸ Aristotle does not allow for differences in kinds of perception and assumes a consistent social positionality or location.

In this new millennium “ethnocentrism has converged with power”.⁹ Hence, IC studies have had to struggle to articulate rhetorical and communication traditions across cultures.¹⁰ Next we provide two examples of important modern philosophers and critics of communication who also wrote from a foundationalist perspective.

In *The New Rhetoric*, Perelman¹¹ addresses problems of rationality. If two individuals convened in the same situation reach separate decisions, is it possible to assume that each holds the capacity for reasonable action, or rather must we dismiss such an assertion as an impossibility, instead assuming the unreasonableness of one due to inadequate knowledge or actions based on such “irrational motives as passion, interest or capriciousness?”¹² In posing this question, Perelman alludes to the seemingly ambiguous relationship between truth, reason and rationality. Traditionally understood, rationality is taken to be “complete”, proceeding from the “principle of non-contradiction” dictating that contradictory statements cannot both simultaneously be true.

However, as Perelman illustrates, this is seemingly convoluted by the nature of our legal and political structure. The U.S. Supreme Court in particular demonstrates the manner in which contradiction prevails judicially. Does this imply the absence of reason among the judges in the minority, and as such, should it in turn cast moral and intellectual doubt upon the integrity of the Court? Is there an answer to “Who is the best candidate?”¹³ Through such inquiry, Perelman serves to underscore the often paradoxical manner in which rationality manifests itself. In so doing, he appears to offer interpretive space for conceiving of truth in polysemic terms. Yet, like classical theorists before him, Perelman’s quandary is fore grounded in a dominant interpretation of rationality that privileges the framing and evaluation of claims. Perelman can thus be seen as traversing the boundaries of a dominant paradigm that he nonetheless reinforces and resides in. Such interrogation of rationality inevitably echoes that of another disciplinary anchor, Jürgen Habermas.

In his *Theory of Communicative Action*, Habermas¹⁴ sets out to construct a conceptualization of rationality that is not bound by the objectivist, individualistic premises inherent to modern social theory and philosophy. In doing so he argued that our capacity to communicate is structured by basic, fundamental rules mastered by all subjects in the learning of spoken language. Through speech we convey subjective feelings, desires and intensions to other subjects. Within these processes we inevitably make truth claims, implicitly or explicitly, about the nature of the objective world or the appropriateness of

our speech acts within the social lifeworld we inhabit. Such validity claims are naturally contestable and resolved through such means as appeals to tradition, authority or force. It is within this domain that the idea of rationality has been fundamental, as this commonly entails argumentative reasons for or against subjective positions.

For Habermas¹⁵ this is a realm in which communication can be attained free of coercion, and a site in which an alternative conceptualization of rationality can be developed. Placing emphasis on the social rather than the conceptual, he conceived *communicative rationality* as communication “oriented to achieving, sustaining and reviewing consensus – and indeed a consensus that rests on the intersubjective recognition of criticizable validity claims”.¹⁶ However, Habermas¹⁷ maintained that the level of liberty within society is ultimately dependent on the degree to which its everyday practices and “identity-guaranteeing traditions,” including its processes of socialization, political culture and institutions, “express a non-coercive, non-authoritarian form of ethical life in which an autonomous morality can be embodied and take concrete shape”.¹⁸

As Habermas noted, Liberalism embraces an antagonistic stance toward competing traditions as a means of validating its particular principles and conception of rationality. Such bias ultimately derives from the structure of international languages of modernity that serve as the “grammatical ground” for “boundless universalism”.¹⁹ When confronted with text from alien traditions embodying alternative, substantive principles for truth and rationality, such languages represent them in such a way as to neutralize them. Habermas thus sought to address how a paradigm shift can be brought about through the “endogenous resolution of an epistemological crisis”.²⁰ A requirement in this regard is acknowledgement among bearers of the tradition that the “alien” tradition possesses superior claims to truth and rationality. This necessarily implies that “the rational discrediting of one’s tradition still proceeds according to its own standards of rationality,” while the learning of a “rationally superior tradition” assumes conversion, “the adoption of new standards of rationality.” According to Habermas, “if different forms of rationality inhere in different traditions, there can be no bridge between them”.²¹

While both Perelman and Habermas sought an interrogation of rationality, the *Theory of Communicative Action* arose as an explicit attempt to redefine it. Nonetheless, while reconceived as a social, “communicative act,” Habermas’ formulation also manifested itself within the context of argumentative validity. Thus, both Perelman and Habermas can be seen as operating under a dominant, antiquity-based paradigm. This in turn is reflective of Habermas’ overarching goal; in sketching a critical theory of modernity, he sought not abandonment of the project of Enlightenment, but a redirection of it.²²

3. Traditional Rationality as Cultural Problematic

Mills clearly saw the limits of traditional rationality. What characterized the end of modernity, he wrote, “... is that the ideas of freedom and of reason have become moot; that increased rationality may not be assumed to make for increased freedom”.²³ For Mills,

the complexity and bureaucratization of society eroded social perception. In contrast, the “sociological imagination” drew in multiple perspectives and the understanding of differing and interconnected values.

The work of Kuhn²⁴ and Lyotard²⁵ focused attention to the vulnerabilities of traditional ways of knowing. Feminist writers produced work that revealed the masculinity qualities of prevailing theories and assumptions.²⁶ Even in anthropology, key figures were turning away from positivist generalization and emphasized particularity and interpretation.²⁷

These works along with the growing work in cultural studies (an early and significant U.S. influence was Carey’s essay, “A cultural approach to communication”)²⁸ encouraged IC scholars to broaden the scope of their studies. In the next section, we provide a depiction of traditional rationality from three areas of IC research: whiteness studies, postcolonial studies and postmodern studies.

4. Situating Rationality within Intercultural Communication Research **Rationality as whiteness**

Summaries of the development of IC research have appeared at different times for different aims.²⁹ Consistent across these overviews is the observation that IC research emerged from anthropology as a social science. Since much of the work in communication in the late 1970’s and 1980’s focused on the interpersonal context and was social science based, this new communication context fit nicely within the mainstream of communication research.

But tensions emerged. By 1990, there was a call for closer examinations of specific cultures and to move beyond theory development and validation.³⁰ Additionally, there also was a growing resistance to equating “culture” with “nation”³¹ and opposition to the nonpresence of scholars of color and the lack of representation of scholars writing outside of the Euro-American perspective.³² The growing influence of cultural studies and the growth of area studies began to attract new questions to IC studies — questions that involved power, voice, positionality and liberation.

In hindsight, this social science research occupied the “uninterrogated space”³³ of whiteness. This research secured a position of unquestioned rationality and authority. “Theory development” was regarded as scholarship of the highest order and the discovery of “generalizable” constructs was seen as the most needed contributions. The association with science worked to “privilege reason, objectivity, and masculinity, concepts that have long been viewed ... as stable, and therefore more trustworthy, poles in the dialectic relationships that exist as reason/emotion, objectivity/subjectivity, masculinity/femininity”.³⁴ At that time, those outside the center who called for the inclusion of new questions and alternative methods were considered Others who were not regarded as IC scholars.

5. Rationality and Postcolonialism

Postcolonial studies emerged from the convergence of a number social and intellection conditions, most notably the wave of decolonization movements following World War II.

The new nation-state formation that this brought about culminated in the rise of the “third world” as a political entity. However, natural resource depletion by former colonial powers, coupled with prior suppression of independent political structures, diminished the resources necessary for the maintenance of civil society. Such socio-political realities ultimately served as the catalyst for vast “third world” migration to the urban centers of the former colonial powers.

One result of this migration was an influx of ex-colonized peoples into institutions of higher learning, notably in the U.S. and Britain. This in turn served as the foundation for “the institutionalized birth of postcolonial scholarship in the academy.” Postcolonial intellectuals thus ascended into positions of teaching and areas of scholarship that sustained a focus on “international cultural perspectives”.³⁵ Early theorists such as Said³⁶ and Bhabha³⁷ sought to reveal the hidden intersections between knowledge, culture, power and politics and called for inquiries into alternative forms of knowledge, a task answered by those who have followed him.

As Shome and Hedge note, “in its best work, [the field] theorizes not just colonial conditions but *why* those conditions are what they are, and how they can be undone and redone.” This transformative stance is ultimately predicated on an attempt to reconfigure historically constructed forms of knowledge production that are bound to “various histories and geographies of modernity”.³⁸ Such institutionalized forms of knowledge are recognized to be “always subject to forces of colonization, nation, geopolitics, and history”.³⁹ As such, postcolonial scholars reject the unquestioned “rationality” inherent to positivist assumptions regarding the existence of universal, objective truths, instead challenging and rewriting established epistemic orientations through an exploration of, and connection to, alternative and negated pasts and presents. Such a trajectory has in turn often served to eclipse in constructive ways the boundaries between postcolonialism and IC research.⁴⁰

6. Rationality and postmodern critique

Echoing postcolonial theorists, Lyotard also proceeded from an interrogation of prevailing notions of knowledge. For Lyotard, the “grand narratives” of modernity, or *metanarratives*, namely those rooted in Enlightenment and Marxist notions of social change, ultimately fail to adequately conceive of knowledge in the “postmodern” era. Further, technological achievements brought about by an economic “redeployment” in the present phase of capitalism demonstrated a transition to symbolic and linguistic production as the defining features of the postindustrial economy and culture.

Scholars responded to the critique of modernism from different areas of communication studies. For McKerrow, this has meant considering how to “reconstitute” a centuries-old area of inquiry “for the discourse of the Other to be heard ... and heeded”.⁴¹ He asked us to “consider rhetoric’s potential — conceived in a modernist universe, dominated by a specific form of rationality, oriented toward systematic appraisal leading to predictive power and leading to perfectibility of whatever its object might be — for addressing those cultures

that share not at all in these visions”.⁴² For other critical IC scholars, this has meant an emphasis on the *relational* aspects of research to create a balance between the macro and micro relevancies of a context. For Conquergood, “The communicative praxis of speaking and listening, conversation, demands copresence even as it decenters the categories of the knower and the known”.⁴³

Many IC researchers now take an activist stance, that is, to *speak with* communities,⁴⁴ which implies an allied relationship that is built upon “active engagement, participation and personal involvement”.⁴⁵

7. Conclusion

In this article, we have explored the places of rationality in relation to communication studies with particular attention to critical intercultural communication research. From antiquity, philosophers have valorized the systematic and disciplined framing and evaluating of claims. Even in 2013, the National Communication Association (USA) states as a goal the promotion of “the effective and ethical practice of human communication”.⁴⁶ “Effectiveness” and “ethical practice” themselves are hallmarks of regularized and rules-oriented (or formulaic) methods for validating claims and decisions.

We have pointed to several scholars (there are many others as well) who drew attention to the limitations of the dominant paradigms and in various ways created fresh terms and concepts that accommodated or made new space for elements of social life that were problematic or rendered invisible in traditional rationality.

What do we conclude regarding the relationship between rationality and critical intercultural communication studies? The goal is not to dispense with notions of rationality; instead we offer the following suggestions:

- We should recognize that what is “rational” is a historical and culture-based outcome. Rationality cannot be universalized and cannot be disconnected from the social relevancies and situated interests that gave it meaning and presumption.

- We should understand that “the rational” is synonymous with power and privilege. We need to continually reflect upon how this power dimension plays out in public debates and deliberations. Ultimately, what is rational can be considered a rhetorical trope employed strategically to advance or impede particular policy positions.

- We should be open to *rationalities* that surround us. Like late modernism and postmodernism intertwined, various rationalities are intertwined. Anzaldúa⁴⁷ made a compelling case for a *mestiza* border logic (condensed in the term “hybridity”) that arose from a unique blend of ancient and indigenous worldviews, European and U.S. colonizing efforts, colliding national identities and the pressures of modernism. She argued for the acceptance of the *mestiza*, not just as an identity but as a way to apprehend and deliberate border policies and moral choices.

- We should be open to cultural experiences that traditional rationality marginalizes. For example, when Wangari Maathai⁴⁸ realized that scientific explanations from professional

foresters would not be understood by Kenyan women as the Green Belt Movement attempted to teach women to plant orchards and other trees for self-sufficiency, she asked the women to submit folk methods for planting and called the women “foresters without diplomas.” The method became a wonderful success.

- Additionally, we should be open to expressions of simultaneities, layerings and contradictions that typically are considered irrational in traditional rationality. Collins’ concept of the “outsider-within” to explain African American women’s “point of view in the world”⁴⁹ expresses a perspective of alienation and intimacy that is valuable for intercultural researchers but problematic in traditional rationality.

These suggestions are not surprising or novel. Recent IC studies have moved from the identification of *what* to creating narratives of *how*. Sorrels and Nakagawa describe this shift as inquiry that leads to IC praxis: “Philosophically speaking, inquiry is situated in what a number of Continental thinkers have characterized as an ‘interrogative’ mode of being in the world The interrogative mode both opposes and complements the received western tradition of advancing statements of assertions as truth claims”.⁵⁰ Burawoy⁵¹ describes this “interrogation” as a means to “dialogue”.

We concur with the conclusion by Halualani, Mendoza and Drzewiecka⁵² in their assessment of IC studies that multiple research perspectives can inform one another. They argue that “insights and struggles from critical perspectives may help to create productive — albeit passionate — dialogues across paradigmatic perspectives and research methods, not to engage culture and intercultural communication in the same way but to lend ‘eyes’ and ‘hands’ in obscured areas, tight spots, and difficult-to-traverse realities (colonized cultures and identities, structured inequalities, rampant marginalization)”.⁵³

Our conviction is that subsequent issues of *Hypothesis: Communication and Rationality*, will present such dialogues “across paradigmatic perspectives” and that multiple understandings of communication contexts and processes gain place and voice.

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"Rhetoric is always with us."¹
"If you want to know real history, read novels"²

Abstract: *Constrained by power, workers have trouble speaking up. To hear them, researchers need to go beyond "polite data," and step into the shadows, an elsewhere where workers feel safe and "impolite data" might surface. This essay reports three preliminary research findings of an eight-month ethnography in Taiwan conducted by a bicultural research team and their "Deep Throat" informant, Mark. One finding is related to boss talk in public, and the other two about male worker talk in the shadows, including masculine buddy talk and a Chinese form of covert communication called suku (訴苦), translated as "confiding bitterness." These three findings are about an important ethnographic theme: Corporate truth telling. Together they complicate our understanding of culture, power and communication: Members of the power elite might be discredited for their cultural and discursive "accents;" and workers seeped in silence in the presence of the boss might engage in critical discourse full of cuss words and military metaphors against seemingly rational corporate decisions yet plagued by hidden rules and unfairness. "Impolite data" manifested deep yet hidden cultural phenomena in the face of corporate irrationality. Directions for future research might include the context and timing by which individuals go into or step out of shadows, the nature of shadow time for a boss, women's ways of speaking, and hidden rules embedded in organizations. Ethnographic research into the shadows, if carefully conducted, with an eye to protecting the participants, enables workers to share deep meanings in a safe zone, a nourishing space for communication in relation to human survival and self-actualization.*

Keywords: *Culture, power, impolite data, covert communication, synecdochic event, hidden rules.*

TO HEAR THE VOICES ELSEWHERE: IMPOLITE DATA & TAKING ETHNOGRAPHIC RESEARCH INTO THE SHADOWS

1. The origin

Around the time of global economic tsunami, in the autumn of 2008, companies in Taiwan, much like firms worldwide, were bracing for the worst, from the tumbling of

business orders and stock prices, disintegration of leading financial firms such as the Lehman Brothers, to massive cost-cutting and layoffs. The impact of the economic tsunami was keenly felt in one's daily life. Our "voices elsewhere" project originated in such a context. It grew out of the informal conversations between a small group of friends who held global ties. At various social gatherings in Taipei Taiwan or through internet chats connecting global metropolises, certain topics became thematic. One thematic topic touched on the mood at work – such as uncertainty, anxiety, fear and despair.³ Another centered on the erosion in one's material life brought about by corporate crisis management strategies – such as "vacation without salary" (or unpaid work furloughs) and the elimination of "year end bonus" ritually given before the Chinese Lunar New Year. In addition to mood at work and material life erosion, a third thematic topic was about the imperfection and complexity of exit management, or the plan to layoff workers, which we will elaborate further.

Apart from the doom and gloom talk, the layered enactment of Taiwanese exit management rules became increasingly apparent. The official discourse honored exit rules framed by a rational and formalized calculus, i.e., using a firm's projected cost and benefit analysis to establish a quota for different divisions to identify workers for layoff, relying on objective criteria such as seniority and performance evaluation. Workers who were underperformers and/or holding a shorter tenure at work would be more likely to be placed on the layoff list. Another set of rules that remained culturally "hidden" emerged in friends' longer and more candid talk into the night.⁴

What were these hidden corporate rules? The first was identified as the kin of the imperium rule, pronounced as *huang qin guo qi* (皇親國戚) in Mandarin Chinese. It dictates that workers who are connected to the boss or a powerful executive are off limits for layoff, even though they might be of junior standing and/or underperformers. Following this "hidden rule," the best friend of the boss or the father of the boss's daughter's fiancé, for example, is off limits. Another hidden rule was the "50 plus" rule. It holds that workers close to or having reached the age of 50 are fair targets for layoff. This has to do with older people's threat to the corporate bottom line due to their stagnant/diminished performance and/or the potential cost of retirement, if a worker has accumulated 25 years of employment or reached the age of 55. Thus, exit management was, on the surface, guided by public rules that are rational and impartial. However, beneath the surface, management decisions seemed unfair and fickle, when a set of hidden rules trumped public rules. A closer scrutiny pointed to a tacit reality in the Taiwanese workplace: "Outside people" (*wai ren*) and "own people" (*zi ji ren*) received differential treatment.

Friends at various rounds of pretty intense conversations were troubled by such widely practiced hidden rules in the workplace. For one thing, these rules were downright unfair, discriminatory, and, in some cases, inhumane. The most invidious aspect of such rules lay in their clandestine status. They could neither be openly talked about nor formally objected to. Plagued by workplace paradoxes that grew out of the contradiction between public and covert rules and compelled by a moral conscience, some took upon themselves to enact

uncommon “intervention” strategies, such as covert moves to stave off the 50-plus rule. Others gave severance packages in amounts that surpassed what had been set aside by approved exit policies. Namely, the corporate “necessary evil”⁵ compelled them to execute covert acts not in the plain view of the boss, so that they could do the “right” thing without jeopardizing their own job security. Still, friends and their colleagues experienced psychic pain when they had to endure, as by-standers rather than change agents, the injustice inflicted on co-workers or subordinates.

Candid talk emerged among those who had developed long-term friendship outside of their current workplace, such as growing up in the same community, serving in the military together, studying under the same dissertation advisor, or working at a prior firm together. Trust was high and immediate risk at work was nil. Put differently, unreserved heart-to-heart conversations about power and politics in the workplace surfaced spontaneously in “safe zones” during times of trouble.

2. Beyond polite data

Aware of such troubling yet powerful conversations, the two of us, authors of this paper, felt compelled to tease out the rich implications. Digging deeper into the notes taken at the initial gatherings and multiple subsequent follow-up interviews, we noted that “safe zone communication” *in* the workplace among workers and *about* the workplace between an interviewer and an interviewee could not have occurred easily, if conversation participants had “weak ties.” We asked ourselves how much of the scholarship in management and organizational studies came out of, what we called, “polite data,” business practitioners shared thinly with researchers perceived by them as outsiders. Polite data tend to leave out “data in the shadows,” the stuff that’s small, real and dirty, the stuff that cannot see the light of the day. Scholarly knowledge having polite data as its foundation conforms to cultural norms and power structure at a firm. Going beyond polite data, we ask three critical research questions:

1. How can we bring into light the organizational data roaming about in the shadows?
2. How can we embrace data in the shadows thickly?
3. How can we write thickly in the doing and reporting of a research project spanning different linguistic and cultural communities?

To answer the first question, we decided that the direction of our research was not to “bring into light,” but for us as researchers to *go into the shadows*, and to listen with care whatever people entrusted with us. That is, we wanted to make sure that the ties between the researchers and the researched were strong and safe enough⁶ to allow entry, to earn the research project sufficiently credible embeddedness.⁷

To answer our second question, we turned to ethnography. We understood that doing research in “real-life organizations” face a lot of “complexities.”⁸ However we felt encouraged that “Culture... can be approached in various ways, such as by analyzing cultural products (e.g., folk tales or ethnographic archives or by doing ethnographic field work).”⁹ To be specific, we appreciated the ethnographic work on ecological embeddedness done by Gail Whiteman.¹⁰ Our own thick embeddedness,¹¹ furthermore, made our research team well situated to do an ethnography of Taiwanese/Chinese business organizations using Mandarin and Taiwanese, and to write research reports in American English in an academic venue. We were also able to redefine the traditional role of an informant. We no longer sought out a “native informant” about an alien world whose language and culture we knew little about, if not beyond a few years of language training in academic classroom. Our informant was not merely a “native” but an ethnographer, in a logical sense a “Deep Throat.” We were committed to critical reflexivity on the politics and ethics of our work and our informant as a co-researcher. Our Deep Throat could not take us physically into an organizational context, so we invited him/her to do the observation as an embedded participant and to share with us his/her ethnographic notes and documents.

To answer the third critical question, the one that addressed the issue of audience with two translation mandates (from Chinese to English, and from the industrial to the academic), we drew upon the work in critical translation studies and critical intercultural communication. We chose to do “translation” as a dynamic process, that is, to get across to English speaking readers the deep *rhetorical effects* created by Chinese/Taiwanese organizational actors. Our choice requires a detour into a brief theoretical coverage of this literature. Hatim, for example, talks about “dynamic equivalence”:¹²

Intervention on the part of the translator, however, can take more drastic forms, in which case the translator would resort to more ‘dynamic’ forms of equivalence. Through dynamic equivalence...we can thus cater for a rich variety of contextual values and effects which utterances carry within texts and which formal equivalence and literal translation, each in its own specific way, would simply fail to convey. These effects would be not so much form-bound as content bound. That is, we opt for varying degrees of dynamic equivalence when, for whatever reason, form is not significantly involved in conveying a particular meaning, and when a formal rendering can only lead to meaningless literalism.

This principle of translation argues against “meaningless literalism.” It is guided by pragmatism and further supported by an established line of research in critical intercultural communication.¹³ It focuses on deep codes involving idiom,¹⁴ humor,¹⁵ proverbs,¹⁶ and gendered naming practice,¹⁷ along with whiteness and colorism¹⁸ used in American and Chinese cultures.

Rather than mere textuality that “throws us back into an authorless and audienceless world,”¹⁹ rhetoricity, with its emphasis on discursive effect or impact, more formally accentuates the relationality between author and audience. Coupling “inter” with rhetoricity,

henceforth the coined concept of interrhetoricity, enables us to consider clusters of words linguistically and relationally²⁰ that may be chosen to accomplish an intended rhetorical effect. Following this framework, to go beyond meaningless literalism and to translate meaningfully is to bring about “inter-rhetorical relevance” between two groups of audience who share little, if any at all, communication and culture.²¹

Integrating our three critical decisions: to research into the shadows, to conduct thick ethnography, and to write thickly guided by dynamic equivalence and inter-rhetoricity, our next step was to take the proposal to friends (and/or people they recommended through snow ball sampling) and to assess if they met the following parameter:

1. *Deep knowledge in situ*: At a minimum at a firm for five years.
2. *First level ethnographic observation*: Competence and availability to create a “thick lifeworld archive” of their workplace for an extended period of time.
3. *Meta-level ethnographic interviews*: Competence and availability to join conversations with the research team to discuss aspects of the organizational phenomena that emerged from their long-term ethnographic observation.
4. *Source confidentiality for deep throat*: Guaranteed that the team will keep their identity completely confidential by following the journalistic practice of “deep background”²² and will give opportunities for them to modify in time any inadvertent identification of them in print, should our work make into the public domain.
5. *Ethical commitment in joint representation*: Guaranteed that the team will share research output for feedback and revision before public dissemination.²³
6. *Voluntary participation*: Entry and exit at any point of the project with no questions asked.

Our project is a preliminary exploration of “elsewhere,” a shadowy space we call a safe zone, where rarely studied communication in the workplace occurs. We focus on the kind of communication thickly coded into everyday Chinese idioms, such as “confiding bitterness” (suku), “scolding via cuss words” (ma san zi jing), and “talking sense into someone” (quan). To unpack the meanings in the safe zone thickly, we contrast it with talk in the “polite zone,” where one may observe the “inscrutable” Chinese workers.

In this essay, we focus on the ethnographic project with Mark,²⁴ our first successful long term research participant, on his company North Tech, a pseudonym we created for the purpose of this article. Having met all of the six criteria, and after agreeing to join our research project, Mark took daily notes of his quotidian at North Tech and was interviewed regularly by the research team. He would be free to decide on the topic, length and style of each ethnographic entry. During his 8-month participation, Mark wrote daily notes in Chinese for 23 weeks excluding holidays and weekends. For him, these notes felt “naked” (chi luo luo de), encompassing his unfiltered thoughts and emotions. His archive contains 111 entries. Their length ranges from 1,015 to 3,670 words, totaling 362 typed pages or 242,346 words.

The research team read each submitted entry daily. We took systematic notes of organizational cultures at North Tech as well as issues/themes that emerged. When we felt that a theme or issue became prominent/resonating Mark was invited to join ethnographic interviews to share his sense making process, and to answer questions identified by the research team. All ethnographic interviews between Mark and the research team were recorded digitally. Except for one session, owing to technical difficulties, we recorded 20 ethnographic interviews, ranging from 63 minutes to 152 minutes. The total time recorded was 34 hours and 19 minutes. We listened back to the recorded conversations repeatedly, enabling us to take additional research notes.

3. Preliminary ethnographic findings

Critical translation and intercultural communication studies guide us to pay attention to “not only what the original has to say but also, when appropriate, how it is said.”²⁵ Our deep ethnography into the shadows revealed cultural nuances, sensitizing us to communicators’ inter-rhetorical propensity “between what we actually choose to say and what we could potentially say but we don’t . . .”²⁶ Due to space limitation, in the next sections, we will share with the reader three preliminary findings on one of the most important themes that surfaced in Mark’s ethnographic archive and our meta-ethnographic interviews with him: Corporate truth telling. We will discuss *what* was communicated and *how* it was done in two contexts: polite/public zone vs. safe/shadowy zone.

3.1 Boss Talk & Worker Silences in the Public Zone

Mark wrote extensively about issues connected to his boss, whom we pseudonymed as Ross.²⁷ Boss Ross founded the firm, North Tech, a publicly traded company in the Taiwan Stock Exchange. How does Boss Ross talk? Growing up speaking Taiwanese in a rural community, his Mandarin and the little English he can muster sound “strange” because of a heavy Taiwanese/rural accent. In contrast, Morris Chang of Taiwan Semiconductor Manufacturing Company, a widely admired leader in Taiwanese electronics industry, is a Mainlander speaking fluent Mandarin Chinese and American English. Chang’s media presence commands respect not only from Taiwanese/Chinese people, but also the global communities. Theoretically, Morris Chang’s style would be labeled as the “lemma” or the cultural and linguistic norm²⁸ and Boss Ross’ style would be marked as the “other,” therefore read as culturally inferior.²⁹

What hampers Ross further are the volume and pace of his speaking. Ross is uniformly thunderous and fast-paced, like sudden hail landing on one’s car. In the ear of a by-stander, Ross shouts rather than speaks. In addition, there is little rhetorical sophistication either in his speech content or structure. Mark and the research team often found it challenging

to take ethnographic notes on Ross' talk. He does not use sign posts (e.g., first, second) or a clearly recognizable organizational pattern (e.g., a chronological order). His ideas jump about and he digresses regularly. Ross does use fancier terms from classical Chinese and in English, only to end up misquoting a phrase or making a wrong word choice, not unlike the widely publicized blunders by Dan Quayle or George W. Bush in American media. Ross speaks Mandarin but lapses into Taiwanese and English. His tone changes unpredictably from the solemn, earnest, pedantic, and child-like, to bombast, down-home, and the ceremonial. The truth of the matter is: The communicative rococo performed by Boss Ross challenges his top-executive audience to keep a straight face when listening. To make matters worse, the audience is also obliged to produce thunderous clapping at the end of Ross' talk.

At a series of business meetings devoted to the costly mistakes surfaced at work, some of which led to lofty fines assessed by their bread-and-butter industrial buyers, Boss Ross announced that he wanted to combat a culture of concealment. His comments about the mistakes were loud and long-winded. Asked by Ross to answer the question: Why is the truth telling culture absent at North Tech? Members in the audience were brief, hesitant, polite, non-emotional, extremely cautious and almost inaudible. When Ross asked why people concealed trouble from him, why people did not tell the truth, someone in the audience murmured, "for the fear of *ma* (scolding)." Another said that concealment was important to protect industrial secrets. Curtiss, an executive at North Tech, offered another reason against truth telling: the fear of ridicule.

In Mandarin, "*ma*" or scolding refers to reprimands from parents/teachers to a child/student. Power differences become palpable, when "*ma*" is used rather than words like criticism or suggestions, normally used between adults (See Appendix A³⁰ - hereafter A). The inter-rhetorical effect Boss Ross created was "harsh patronizing," like from a father to his children, rather than "measured criticism" from an adult-to-adult relationship.

To rid concealment, Boss Ross made a pledge: Truth telling would no longer lead to scolding at North Tech. Instead of speaking solemnly, a style more appropriate for pledge making, Boss Ross communicated like a street vendor thundering away in an effort to solicit business from passers-by in street corners.

Ross' "voices" were colorful, yet tinged with power and subtle reminders of his own inferiority. In front of Boss Ross, in a polite zone, the employees' silences,³¹ were obsequiously stoic. And according to Mark, no one would welcome a pledge framed in ways that cast the workers as whining children rather than respected professionals. And few, if any, would respect a pledge of organizational change that was shouted out by a petty street vendor. What a boss and his workers said and how they said it complicated our view of managerial power and workplace subjugation. The penumbra of what was said as well as not said led us into the shadows of an organizational "elsewhere," where boss and his eyes and ears could not reach.

3.2 Masculine Buddy Talk in the Shadows

Here in what we call the elsewhere or shadows, we found employees performing quite a different communication style, one that we label as “masculine buddy talk.” In its own way, it was as colorful as Boss Ross’ talk. Workers’ talk was peppered with military metaphors and cuss words. It’s not polite at all. And it was animated with a rich repertoire of tones and emotions, ranging from hushed voices in addressing sensitive topics, sighing with lamentation, dramatic anger and loud laughter, to long silences. Masculine buddy talk contrasts sharply with the “obsequiously stoic” style performed when the boss was around. Two clearly identifiable forms of discourse -- military metaphors and cuss words -- documented ethnographically characterized corporate male talk in the shadows. Let us elaborate on them.

Military metaphors. Adult males, in Taiwan, become corporate employees after the completion of compulsory military service from one to two years with the government. In the workplace, corporate males often use military expressions freely with people they trust. In Mark’s ethnographic archive, a superior is often called “an officer” (*zhang guan*) rather than his formal title (e.g., manager, vice president). Top executives are called “generals.” “The troop” is used to refer to one’s work unit, such as R&D or sales. For example, one employee may say, “Once headed by an incompetent director, the new division would become a crippled *troop*.” To lose out in competition is to “lose a battle” or “to lose the entire legion. Work performance, if criticized severely by clients or supervisors, is “killed in action.” Such colloquial communication signals a form of male bonding that lubricates business transactions, making them more fun and trusting and less painful and guarded. The dynamic equivalence of military terms used at North Tech resembles contemporary sports expressions used by male workers in North American firms.

Cuss words. The second characteristic of masculine buddy talk is the frequent use of cuss words. One group of cuss words has to do with “egg” (*dan*) which refers to someone, often a male, who is inept and bafflingly stupid. Its dynamic equivalent would be a “doofus” or “nincompoop.” In the oral ethnographic data, we found the use of “turtle egg” and “stupid egg” to refer to ridiculous acts performed by peers as well as supervisors.

Another trope, “fart” (*pi*), meaning acts that are far-fetched or non-sensible, also occupies a significant discursive space. For example, “The excuse used by Mal is farting a dog’s fart (bullshit),” or “Jim says nothing but fart words (nonsense).”

Similar to “fart” is the expression “bird” (*niao*). A rookie or greenhorn is called an “inferior bird” who would do “bird things,” which means bungling.

Underperforming, illogical and/or brown-nosing people are called “garbage” (*le se*), such as “Who wants to work with this piece of garbage?” Its dynamic equivalent would be “s...t,” “pain in the ass,” or “asshole” in American slang.

“His mother’s” (*ta ma de*, abbreviated from “f... his mother’s X”) is also used frequently, as a conversational filler or an exclamation refrain when guys become agitated and are

about to say something truthful but perceived as socially inappropriate or negative. For example, “[F...] *his mother’s*, I may slam the door and quit.” This is equivalent to say “F... you, take this job and shove it.” Finally, “to f... someone up” (*gan*) is frequently used to mean “to scold someone *really* harshly” (See Appendix A). An example from Mark’s ethnographic notes: “Ross asked me to step out of the office so that he could have a private conversation with John. Ross then shut the door and, not even within two steps of my walking away from them, I heard him shouting at John. He *f...ed John up* royally [scolding John really harshly].”

Below is a synecdochic event³² we selected from Mark’s ethnographic archive. This key event we chose to zoom in for the purpose of this article is synecdochic because, based on our rich ethnographic immersion, it organically substitutes North Tech and provides a resonating microcosm for the study of corporate culture and the trouble with speaking up.

It was a private conversation behind closed doors³³ between Mark and Stephen about Luke. Luke held close ties with Boss Ross but was widely perceived as an underperformer at North Tech. Luke was Mark’s peer but Stephen’s supervisor. Ethnographically this talk between two male workers, Mark and Stephen, well exemplifies what we mean by “masculine buddy talk” (see Appendix B - hereafter B).

Luke frequently neglected to do his job as an executive. As the head of a different division from Luke’s, Mark “rescued” Luke regularly so that things would not fall apart. Lines 1-4 serve to illustrate this point. Especially the use of “fart” (B: 3), a cuss word, indicated that Mark spoke with little self-censorship and he intensely disapproved of Luke. Mark’s outrage was caused by Luke’s choice to complain about rather than to appreciate Mark’s help (B: 5-7). This led to Mark’s “sniping” tone, criticizing Luke’s lack of logic (B: 8). With disapproval and annoyance came frustration. Lines 9-15 shed light on Mark’s complex emotional journey. Long pauses and sighing led to Mark’s naming of pain. It’s a rare instance of sharing one’s vulnerability because men rarely talk about hurt in the workplace.

Mark’s talk became cathartic, recollecting in private his prior outburst against Luke in public. He enunciated cuss words, “to f... Luke up” (B: 21, 24, 29 & 32), four times in a jolly spirit. Mark laughed out loud on three occasions (B: 21, 28-29, 33-35), with the last round of laughter prolonged uninhibitedly (B: 33-35). “I *waah pipipapa* just f...ing him up” (line 29) showed that Mark vocalized the sound of dashing like a Kamikaze plane (*waah*) and the sound of slapping (*pipipapa*),³⁴ before he entered into the heart of the action, to cuss a peer out openly. His cussing out was tantamount to slapping, attacking “the enemy” like a suicide plane. So animated was Mark that he used English performatively, imitating a female assistant’s mitigating words, shouting “Calm down! Calm down!” (B: 28). Through word choices and nonverbal cues, Mark cussed away with great joy. And there was a lot of drama through soundgraphs and story-telling.

A follow-up ethnographic interview with Mark thickened the context of this “outburst episode” -- it was at a meeting where Boss Ross was absent, while all of Luke’s subordinates

were present, including Stephen. Luke was reading from the power point that Mark had prepared for him as a favor. Luke's presentation did not go well. In the end, Luke publicly, in a sarcastic tone, blamed Mark for his own [Luke's] unimpressive presentation. Feeling used and abused, Mark protested, "You *should not* have said this in front of everyone else," and dove into the "f...ing Luke up" outburst communication shared above.

When Mark talked to Stephen about this heroic insurgence, Mark was mindful of his own aberration. That is, he normally would not have done this (B: 24 & 31). Therefore he repeated an alibi for his action three times, "I could not stand it anymore, you know?" (B: 25, 30 & 34). Mark was aware of the inappropriateness of his behavior, a transgression which he called as "losing manners" (B: 31). That is, different behavior ought to be performed in different contexts in order to be socially appropriate. Mark felt uncertain, vulnerable, perhaps a little ashamed, so he asked Stephen if Stephen was surprised at all by the aberration (B: 35).

At first hesitant (B: 36), Stephen suggested that Mark was over-reacting. In other words, Stephen rendered a somewhat negative judgment although it was said in a hushed tone of voice. Stephen's complex move indicated agreement with Mark's self-assessment of "losing manners." They both supported that there ought to be rules to guide proper behaviors at North Tech. Yet he showed Mark support by chuckling gently, "You overreacted huh huh..." (B: 37). Most of Stephen's support, getting Mark off the hook and affirming his alibi, was performed nonverbally (B: 39).

Masculine talk here is coarse without inhibition. The frequency and accentuation of cuss words were breath-taking. It can be great fun and highly dramatic, with a performative flair to it. Yet, the bravado does not last 24-7. When one wonders if one's act is perceived as transgression in the workplace, the masculine style becomes a balancing act and followed by a sense and style of vulnerability, softer and thus perceived as more "feminine."

4. Confiding Bitterness in the Shadows

Another form of interaction in the shadows, in a "safe zone," coded in Mandarin Chinese is called *suku* (訴苦), which we translate as confiding bitterness. We will use two synecdochic excerpts as an arch, one from an early part of the private talk between Mark and Stephen (Appendix C - hereafter C) and another from the tail end of their talk (See Appendix D - hereafter D), to illustrate confiding bitterness (*suku*) as a corporate interpersonal communication that deserves research attention. We share detailed conversational data to illustrate the complex "becoming" between two male workers who trust each other.

A *suku* interaction is clearly marked by boundaries. It is typically done behind closed doors, but when a *physical boundary* does not hold, in this case by a third party knocking on the door (C: 15), *suku* partners "know" to maintain their exclusiveness through a *discursive boundary* in the form of silence (C: 16). In reviewing the excerpt, we noticed that,

as Stephen's tone became louder and more animated in finishing up a story about Boss Ross (C: 14), he stopped the talk in mid-sentence and a mutual silence lasted for 3 seconds, until the coast was clear.

The "bitterness" at hand concerned a disagreement in perspective about corporate personnel: how to assess performance, and what division of labor is fair. In short, it was about management style and action or inaction against incompetence. What Boss Ross favored, in Stephen's words, were those who "could follow his orders" (C: 99) and "hug the thighs" (C: 112). "Thigh hugging" (*bao da tui*) here is a risqué idiom referring to people who ingratiate. It is like brown-nosing in American slang. In contrast, Boss Ross ran down Stephen and Mark because they were "bookish" (*shu sheng xing*) (style of the scholar) (D: 54).

How was the disagreement over style between boss and subordinates handled? Stephen told Boss Ross his version of "truth" on two occasions, one when he told about Rockie's incompetence (C: 13) and another when he talked about Rockie's failure to create learning opportunities (C: 58). We mark Stephen's truth telling here as a Chinese form of "advice giving," (called "*jian*") by the subordinate to the superior. It is an overt and unsolicited form of upward communication in an effort to change current practice. Stephen prefaced his "*jian*" with deference, by qualifying his "advice," by asking for permission to "go beyond my job duty" (C: 9-11) and by acknowledging the inappropriateness of commenting on "my elder at the university" (C: 53-54).

After taking the risk to "*jian*," Stephen was rebuffed by Boss Ross. First through buck-passing: Boss Ross placed blame not on Rockie but on his predecessor, Jerry, for the "residual poison" Jerry had left behind for Rockie to clean up (C: 19-21). Second, it was through a rhetorical question: Boss Ross corrected Stephen's view by questioning, "Why do you still think you are here to learn?" (C: 60-61).

It was obvious that Stephen became increasingly angry. Stephen confided in Mark the emotions growing from the earlier exchange with Boss Ross. He felt upset, frustrated, and confused. He questioned the bad personnel decisions at North Tech, "Why in our organization we have to accept this disaster willingly" (C: 30-31); questioned ingratiation, "why should I hug the thighs?" (C: 131); and questioned Boss Ross, "Have I selected the right boss?" (C: 140). As his critical consciousness bloomed, Stephen realized that his truthful viewpoint had little chance to prevail with Boss Ross and at North Tech.

Finally, Stephen made his break-through, "So so ... I have gained a different view of the profession, quite honestly speaking" (C: 114-6). He referred to Boss Ross' management style and North Tech's political structure as "autocracy" rather than "democracy American style." He rejected Ross' anti-learning and tribal perspective, and reaffirmed the value of hard work, competence and learning.

While we are on the topic of "learning," we note two other occasions when "books," the trope for learning, were brought up by Stephen to bolster his position. The first had to do with modern management books which Stephen used, as authoritative sources,

to affirm corporate competence and accountability (C: 26). The second had to do with ancient Chinese wisdom, “I have been reading classical Chinese books especially I think [I discovered that] loyal officials all died a really tragic death” (C: 103-104). In other words, loyalty does not pay off. And given the culture favored by Boss Ross, Stephen confessed, “My degree of loyalty to the company has diminished, I have to say this” (C: 142-144).

The nonverbal acts performed by Mark to support Stephen’s awakening process also deserve attention. Mark used a gentle tone of voice to invite Stephen to resume his truth telling story, after the intrusion of door knocking (C: 17). He showed his rejection of Boss Ross’ buck-passing, by talking over but affirming Stephen in a forceful voice (C: 22-23). Mark breathed a heavy sigh in the background to echo Stephen’s frustration with the view held by Boss Ross (C: 39-40). And Mark embraced Stephen’s “loyal people die badly” thesis through hearty and extended laughter (C: 105).

We note two other acts performed by Mark, during the *suku* session: acting out and advice giving. The first enacts a discourse that expresses anger in a highly dramatic style. Mark despised thigh hugging. He used a rhetorical device, parallelism (C: 118-123), to build up a crescendo, culminating in a loud conclusion, punctuating key positional words, “Your and my view are the same. So we **do not hug** the thighs, right?” (C: 135-36). Mark also cussed daringly, “That is the reason why when you told me about the Rockie decision, before it was formally announced by boss, I, [f...] his mother’s, I emitted such a big fire” (C: 41-44). The expression was too crude to say in full, even in the shadows.

In addition to a dramatic performance, another act has to do with advise giving in two Chinese forms: admonition (*gao jie*) (D: 1-12) and mitigation or talking someone into good sense (*quan*) (D: 14-17). The value, Mark admonished Stephen, is to embrace substance, i.e., one’s character and action, which classical Chinese sages admonished the young to abide by. Advice may also be mitigating, aiming at self-adjustment modifying oneself in order to accommodate a hopelessly crushing situation. Mark, being of higher rank, older and more experienced, was in a position to “mentor” Stephen. At one point, Stephen called Mark, an “officer” (C: 24). It’s a military metaphor we discussed in the earlier section. Mark offered his advice, in a soft tone of voice, at one point moving into a monologue murmuring to himself: “. . . and one does not need much bitterness [*ku ha ha de*]. That is one needs to be happier, you understand it, otherwise life will be indeed tragic” (D: 14-17).

Toward the end of the *suku* conversation, Stephen, persuaded by Mark to be “happier,” brought up a joyous point, in part to cheer Mark up, to reciprocate his mentoring. Boss Ross promoted Rockie rather than Stephen. After this news was made public, Stephen reported that many people approached him and showed support, “You have done a good job. Why is it given to someone else [Rockie rather than Stephen]?” (D: 26-27). Marveling at this unsolicited affirmation and feeling vindicated, Stephen was at a loss for words, at which moment, Mark talked over him, providing him with an artfully condensed expression in classical Chinese, “*jian yi bu ping*,” which means, “People felt enraged by the lack of justice because they have witnessed moral principles being violated” (D: 29-31), to which

Stephen responded affirmatively, “Right right right right right” (D: 32). In the background, cheering Stephen on, Mark clapped thunderously. All this provided a needed closure in a scintillating way, for two men, two friends who were well on their way to heal their bitterness.

5. Discussion

When trust was high and risk at work was low, people opened up. Accordingly, we decided to go beyond polite data and to “hear voices elsewhere,” taking our research into the shadows, conducting thick ethnography and translating dynamically and interrhetorically.

Our analysis recalls a view of culture advanced by Granovetter, who holds that “. . . culture is not a once-for-all influence but an ongoing process, continuously constructed and reconstructed during interaction. It not only shapes its members but also is shaped by them, in part for their own strategic reasons.”³⁵ When we considered social ties as between Mark and Boss Ross and between Mark and Stephen, we did not give short shrift to “specific content, history, or structural location” of relations. We placed concrete discourse *in situ*, focusing on “individualized content beyond that given by the named roles”³⁶ such as boss, managers, or friends. Dynamic translation and inter-rhetorical relevance enabled us to materialize a less reductionistic view of power and culture.

The concept of “shadows as safe zone” in corporate cultures deserves further thought. It is a space like “safe harbors”³⁷ or “kitchen” as safe spaces³⁸ for American slaves then³⁹ and black American women now. In our study, safety is synonymous with confidence and trust. No harm will come from this interaction, this relationship. In ethnographic research, trust plays out at two levels: between researcher and the researched, and in the field among participants. We designed our project to maximize trust in both areas. Going into the shadows, we moved beyond “polite data” collected by researchers treated as outsiders. That is to say, we refined the role of a native informant from a professional informer to an ethnographic Deep Throat, as a co-researcher. We, as researchers, recognized and embraced cultural embeddedness and relational ethics listed in our six research parameters. The “impolite data” entrusted with us were indeed rich, enabling us to offer three research findings.

The first finding advances a more complicated take on boss talk. In our study, it was mixed with power and subjugation. Boss Ross had institutional power, yet his speaking location could not conceal his origins at the bottom of a cultural hierarchy. It revealed itself through his rural accent. Bridging this gap between power and accent, between success and origin, Boss Ross often ended up doing a farcical job in public address. He was into the excess. He pledged, like a street vendor, to end scolding and to welcome truth telling. Yet while doing so, he acted out the persona of a whining child and treating his employees as children rather than competent adults and professionals. They talked only when they were

talked to. When they broke silence, they were brief and extremely cautious, in the complex style of an obsequious stoic. Workers' "voice" remained silenced in speaking.

The second research finding concerns a complex body of "masculine talk" shared by male workers in the shadows. Immune from surveillance, what they said was quite colorful rather than grey, reticent, and stoic. Their talk was characterized by military metaphors and cuss words. We call this masculine buddy talk. Nuanced nonverbal cues were deployed. These ranged from laughter, paralinguistic soundgraphs, to varying the volume and pace of speaking. Yet recalling moments of vulnerability, perhaps shame, for example, as with Mark's "loss of manners," they also displayed softer and more feminine forms of expression. In short, workers, while a lot more colorful and impolite, were not purely masculine all the time in the shadows.

The third research finding concerns *suku*, confiding bitterness, a complex process of becoming. *Suku* deserves special attention because of its specific cultural forms. *Suku*-ers jointly create their safe zone in the shadows via exclusive boundaries, physical and discursive. In our study, the bitterness was about disagreement over personnel decisions (i.e., promotion) and corporate values (i.e., thigh hugging or ingratiation vs. competence), yet it is embedded in power differences between a boss and employees. An employee in disagreement is afforded a risky option of advice-giving to power, "*jian*," often prefaced with deferential qualifications. Strategies to rebuff *jian*, such as buck-passing and rhetorical questions, may discourage *jian*-ers from trying again. In disagreement and having been rebuffed, an employee might feel intensely negative emotions. If supported by a trusted mentor verbally and nonverbally, whose advice through admonition or mitigation, might strengthen one's valued position and suggest adaptation. This person might become "silent" as a stoic in the polite zone, but bloom critically in a safe zone, learning to name reality differently, to question and reject a perspective held by the power elite, and ultimately to question one's boss. When the boss is deaf to criticism and change, one's loyalty might fade and one might plan to exit the corporation. Yet, unsolicited affirmation and mutual support in the shadows, might help one endure the bitterness. Although revolution was not counseled here, *suku* as a widely adopted cultural performance might be an incubator for transformation at levels far beyond one's self in isolation.

6. Implications & future directions

Our findings are informed by the theory of strategic ambiguity advanced by Eric Eisenberg,⁴⁰ a prominent scholar in American organizational communication. Ambiguity in corporate discourse is not always inefficient, and clarity is never without problems. We have illustrated, in our "Voices Elsewhere & Impolite Data" project, that an ambiguous or little noticed expression, verbal or nonverbal, in the eye of an outsider might be quite clear and meaningful to the insiders. Ambiguity can be productive in accomplishing multiple

goals in a specific context, such as Stephen's polite criticism of Mark's overreaction and simultaneous reaffirmation of Mark with a chuckle. Ambiguity finds its fertile incubator in human orality: (1) through the choice between words or silence; (2) through verbal communication in the selection between cuss words and formal expressions, and in English or Mandarin, modern Chinese or classical Chinese; and (3) through nonverbal communication, from tone of voice to pace of speaking, from over-talking to onomatopoeic "waah pipipapa," and from sighing to laughing.

Not without its own limits,⁴¹ *suku* as a cultural and communicative phenomenon can be productive in our view. Because "relationships are valuable as ends in themselves,"⁴² and a space for *suku* allows managers, workers and researchers in organization "... to make context more conducive to collegueship, emotional support, and joint work – to more help and less harm."⁴³ This point is supported by research into affect or interpersonal liking "as a moderator of competence in task-related ties."⁴⁴ Affect gains importance in informal work relationships because "liked but less competent people were more likely to be sought out for task interaction than were people who were competent but disliked ... those who are most competent at the task are not necessarily the most sought out for task interaction."⁴⁵ Fostering a "safe zone" in the corporate shadows, as shown in our study, through common values and mentoring, may counter corporate forces that hold back "a significant reservoir of task-oriented knowledge from being tapped in organizations."⁴⁶

Neither, uniform nor singular voices and silences are themselves plural.⁴⁷ Their relationships are dialectical.⁴⁸ In this study, we chose not to restrict the construct of voice to "verbal behavior that is improvement-oriented and directed to a specific target who holds power inside the organization in question."⁴⁹ Speaking is not the same as speaking up, and not speaking is not the same as silence. Because a worker's ecology of communication is multi-realmed, speaking with those above her/him in power in an institutional hierarchy constitutes *one of the contexts*, certainly not *the only context*, in which workplace communication takes place. One may have trouble speaking up in front of the boss and co-workers at a weekly strategy meeting, yet one may bring problems and their silenced voices elsewhere, employing different styles of communication in a shadowy zone where one feels safe enough not to self-censor. Their public communication, if so codified, may become ambiguous and layered with multiple meanings, ones that the outsiders may construe as "silences" and the insiders code variously as "silent voices" or "voiced silences."⁵⁰

Our research is at its embryonic stage, yet it is generative. As we progress further working with Mark and other Deep Throat informants, we wonder about a few general areas of development. First, we begin to understand that what's crucial is less about what is spoken and who is silenced, than about the germinating moments of appearing and vanishing, moving into and out of light and darkness, the context and timing individual actors in an organization feel compelled to speak up, to increase the volume, to stutter, to slow down, sigh, laugh, tell a story, imitate an action paralinguistically, mitigate an

outburst, and resume silence. Second, a boss does not stay in the limelight 24-7. There is a shadow time, for bosses, too. What characteristics do bosses display in their “elsewhere?” Whom can they trust, if at all, and what would they say?

Finally, our data in this study were based on the communication among male workers. We now wonder about women’s ways of doing *suku*. Do they use cuss words? What do women workers do to move into and out of shadows? What’s their shadow time like? What about boss talk performed by a woman? Intrigued by the hidden corporate rules (e.g., 50-plus rule) in Taiwan, we also wonder what they are in different cultures, and their impact on organizational change and managerial decision-making, such as exit management.⁵¹ And, we continue to be intrigued by the Chinese wisdom phrase: “If you want to know real history, read novels.”

Notes

1. J. V. Maanen, “Style as theory,” *Organization Science* 6, 1 (1995): 134.
2. Chinese wisdom phrase.
3. P. M. Muchinsky, “Organizational Communication: Relationships to Organizational Climate and Job Satisfaction,” *Academy of Management Journal* 20, 4 (1977); K. H. Roberts, and C. A. O’Reilly, “Failures in upward communication in organizations: Three possible culprits,” *Academy of Management Journal* 17, 2 (1974); S. Rosen, and A. Tesser, “On reluctance to communicate undesirable information: The MUM effect,” *Sociometry* 33, 3 (1970)
4. S. Wu, *Unspoken rules: The game of advance and retreat in the history of China*, Chinese Edition (Taipei: Jou Jing Publishing, 2002).
5. J. D. Margolis, and A. Molinsky, “Navigating the bind of necessary evils: Psychological engagement and the production of interpersonally sensitive behavior,” *Academy of Management Journal* 51, 5 (2008).
6. M. Granovetter, “Economic action and social structure: The problem of embeddedness,” *American Journal of Sociology* 91, 3 (1985).
7. J. E. Dutton, and J. M. Dukerich, “The relational foundation of research: An underappreciated dimension of interesting research,” *Academy of Management Journal* 49, 1 (2006).
8. C. C. Chen et al., “How can cooperation be fostered? The cultural effects of individualism-collectivism,” *Academy of Management Review* 23, 2 (1998): 298.
9. Chen et al., “How can cooperation be fostered?”, 299.
10. G. Whiteman, “Why are we talking inside?: Reflecting on traditional ecological knowledge (TEK) and management research,” *Journal of Management Inquiry* 13, 3 (2004); G. Whiteman, “‘First you have to get outside’: Reflecting on the ecological location of qualitative research,” *Organization & Environment* 23, 2 (2010); G. Whiteman and W. H. Cooper, “Ecological embeddedness,” *Academy of Management Journal* 43, 6 (2000).
11. This is because both us were born and raised in Taipei, Taiwan, and we possess relevant academic training and research experiences. Specifically, our first author received her doctorate in communication studies in the U.S., and second author his doctorate in business management

- in Taiwan. The first author works as a administrator/professor and has lived in the U.S. for 30 years, and the second author serves as a high-level executive in the electronics industry, living in Taiwan with a few years of sojourn in the U.S. to obtain his master's degree. Both researchers speak and write Mandarin Chinese as their native language, are fluent in English as a foreign language, and are bicultural, with the first author much more immersed in American cultures and the second author Taiwanese/Chinese cultures.
12. B. Hatim, "The translation of style: Linguistic markedness and textual evaluativeness," *Journal of Applied Linguistics* 1, 3 (2004): 237.
 13. M. J. Collier et al., "Dialogue on the edges: Ferment in communication and culture," in *Transforming Communication About Culture: Critical New Directions*, ed. M. J. Collier (Thousand Oaks, CA: Sage, 2002); W. Lee et al., "A sociohistorical approach to intercultural communication," *The Howard Journal of Communications* 6, 4 (1995).
 14. W. Lee, "On not missing the boat: A processual method for inter/cultural understanding of idioms and lifeworld," *The Journal of Applied Communication Research* 22, 2 (1994).
 15. W. Lee, "Communication about humor as procedural competence in intercultural encounters," in *Intercultural communication: A reader*, ed. L. A. Samovar and R. E. Porter (Belmont, California: Wadsworth Publishing Company, 1993).
 16. W. Lee, "In search of my mother's tongue: From proverbs to contextualized sensibility" in *Among US: Essays on identity, belonging, and intercultural competence*, ed. M. W. Lustig and J. Koester (New York: Longman, 2000).
 17. W. Lee, "In the names of Chinese women," *Quarterly Journal of Speech* 84, 3 (1998).
 18. W. Lee, "One whiteness veils three uglinesses: From border-crossing to a womanist interrogation of gendered colorism," in *Whiteness: The communication of social identity*, ed. T. K. Nakayama and J. N. Martin (Thousand Oaks, CA: Sage, 1999).
 19. W. Lee, "In the names of Chinese women," 297.
 20. "Inter-rhetoricity" as a theoretical construct may be applied to verbal communication (such as word choice), nonverbal communication (such as facial expressions, tone of voice), and sequence (such as taking a seat in a movie theatre) in order to understand/assess the effect of discourse in context.
 21. A brief example: To understand why a rhetorical effect of "offense" is created in an American context in which an individual, Jason, uses "kicked the bucket" to refer to the death of a well respected elder, Elmer, in the community in front of his grieving family, is to understand that Jason fails to choose appropriate alternates available to reasonable people in the culture, such as "passed away" or "deceased." To get across the "offense" dynamically, a translator needs to locate alternates, and illustrate that, among them, one expression is inappropriately chosen over the other/s. Interrhetorically translating the dynamic equivalent from English to Chinese, a translator might write: Jason comments on Elmer's passing as "pigtail turned upside down" ("kicked the bucket") rather than "died as an immortal" ("deceased").
 21. B. Woodward, *The secret man: The story of Watergate's deep throat* (New York: Simon & Shuster, 2005), 66.
 22. C. Ellis, C. "Telling secrets, revealing lives: Relational ethics in research with intimate others." *Qualitative Inquiry* 13, 1 (2007).

23. We gave him the pseudonym “Mark,” because we wanted to remind the reader of his dynamic equivalence: Deep Throat, Mark Felt (C. Bernstein, and B. Woodward, *All the President's men* (New York: Simon & Schuster, 1974); J.D. O'Connor, “I'm the Guy They Called Deep Throat,” *Vanity Fair*, July 2005, <http://www.vanityfair.com/politics/features/2005/07/deepthroat200507>), whose disclosure led to the resignation of American President Richard Nixon in 1974 in the midst of the Watergate scandal.
25. Hatim, 233.
24. Hatim, 234.
25. We named Mark's boss “Ross” after Ross Perot, the twice presidential candidate in 1992 and 1996 in the United States, because Boss Ross's communication style is perceived as idiosyncratic, much like Ross Perot by mainstream Americans.
26. Lemma, a linguistic term (*Encyclopædia Britannica*, 2010), refers to a word in its original form, such as “go” (rather than its past tense “went”) and “flower” (rather than its plural form “flowers”). Defined as such, lemma is used as a metaphor to mean a *normative state* so naturalized that members of a culture may fail to notice its existence. Any form that deviates from the lemma state becomes “marked” (I. Mazurkewich, “Syntactic markedness and language acquisition,” *Studies in Second Language Acquisition* 7, 1 (1985)) for its distinctiveness.
27. Business organizations, in Taiwan, are embedded in a political-communicative hierarchy. A shift from a KMT dominated semi-military state (1949 - 1988) to a two-party democracy (KMT and DPP) sandwiched between China and the U.S. makes Mandarin Chinese the language of the cultural elite, leaving Taiwanese a Chinese “dialect” of rural and lower class standing. English, the third language commonly used in Taiwan, carries with it a superior status associated with global viability and metropolitan hipness. In this context of linguistic hierarchy, public figures who speak Mandarin with a heavy Taiwanese accent and/or who fail to speak basic English become, for the socio-cultural elite, a butt of ridicule. Mindful of the hegemonic link between power and discourse, we find differential prestige bestowed on languages/ dialects problematic. What is reported here about three languages, Mandarin, Taiwanese and English, reflects one of the common views in the Taiwanese society rather than what's endorsed by the researchers.
28. We will list a few idioms that are “alternates” for reprimand (See Appendix A). They differ in terms of two factors: the degree of a subordinate's offense that triggers scolding and the relational connotation, from informal to formal. Three out of the ten alternates are cuss words (marked by asterisks), which connote hyper masculinity.
29. F. J. Milliken et al. “An exploratory study of employee silence: Issues that employees don't communicate upward and why,” *Journal of Management Studies* 40, 6 (2003); E.W. Morrison and F.J. Milliken, “Organizational Silence: A Barrier to Change and Development in a Pluralistic World,” *Academy of Management Review* 25, 4 (2000).
30. Synecdoche is one of the four master tropes identified by theorists such as Giambattista Vico and Kenneth Burke. An expertly treatment of this complex rhetorical device may be found in *Encyclopedia of Rhetoric and Composition* (T.J. Enos, *Encyclopedia of rhetoric and composition: Communication from ancient times to the information age* (New York & London: Garland Publishing Inc., 1996), 712-713), which defines synecdoche as “a figure of substitution taking two inverse forms: substituting the part for the whole, or the whole for the part” (Enos,

- Encyclopedia of rhetoric*, 712). For an application of synecdoche to management studies on employment relations and local pay, see P.M. Hamilton, "The salience of synecdoche: The part and the whole of employment relations" *Journal of Management Studies* 40, 7 (2003).
31. Having conversations behind closed doors was itself a privilege. Because the photos taken at North Tech indicated that non-executives were placed in waist-high cubicles in a large open space. There was no coffee/tea break room. To engage in private talk, workers, for example, used cell phones by "hiding" in the stair way or riding up and down in an elevator.
 32. This form of nonverbal communication is called "paralinguistic soundgraphs" (F. Poyatos *Nonverbal communication across disciplines: Paralanguage, kinesics, silence, personal and environmental Interaction* (Philadelphia, PA: John Benjamins Publishing Co., 2002, 155). Being onomatopoetic therefore difficult to capture or reproduce, only a few of such spontaneous expressions are registered in standard dictionaries, such as "achoo" for sneezing and "ouch" for pain.
 33. M. Granovetter, "Economic action and social structure: The problem of embeddedness." *American Journal of Sociology* 91, 3 (1985): 486.
 34. Granovetter, 486.
 35. C. J. G. Gersick, J. M. Bartunek, and J.E. Dutton, "Learning from academia: The importance of relationships in professional life, *Academy of Management Journal*, 43, 6 (2000): 1037.
 36. O. I. Davis, "In the kitchen: Transforming the academy through safe spaces of resistance." *Western Journal of Communication* 63, 3 (1999).
 37. As an "elsewhere" deeply rooted in the American south that institutionalized chattel slavery, kitchen was black, dirty and noisy, segregated from the master's white, polished and civilized dining room. Yet a subjugated space, both racially and gender-wise, "kitchen" could be transformative, affording black women and children creativity and, more importantly, a human community.
 38. E. M. Eisenberg, "Ambiguity as strategy in organizational communication," *Communication Monographs* 51, 3 (1984).
 39. The ramification of safe zone relationships may include the formation of factionalized cliques, which necessitate pro-active procedures to foster collective change (D. Vera and M. Crossan, "Strategic leadership and organizational learning," *Academy of Management Review*, 29, 2 (2004). Effective procedural suggestions might include attempts to "develop clear, measurable and weighted goals," "develop wide participation in goal setting," and "specify, evaluate, and communicate underlying assumptions" (C.M. Jones, *Patterns of Social Policy: An Introduction to Comparative Analysis* (London: Tavistock Publications, 1985), 35-36). Limited also by space, we are yet to elaborate on the possibility that safe zone communication, if insufficiently transformative, could become indulgent and thus potentially counterproductive.
 42. Gersick, Bartunek, and Dutton, 1042.
 40. Gersick, Bartunek, and Dutton, 1042.
 41. T. Casciaro and M.S. Lobo, "When competence is irrelevant: The role of interpersonal affect in task-related ties," *Administrative Science Quarterly* 53, 4 (2008): 677.
 42. Casciaro and Lobo, 679.
 43. Casciaro and Lobo, 656.

44. M. M. Bakhtin, *The dialogical imagination: Four essays*, trans. M. Holquist and C. Emerson (Austin: University of Texas Press, 1981); M.M. Bakhtin, *Speech genres and other late essays*, trans. V. W. McGee, (Austin: University of Texas Press, 1986); Bies and Shapiro, 1988; Bowen and Blackmon, 2003; Hirschman, 1970).
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47. Wu, *Unspoken Rules*.

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APPENDICES

APPENDIX A
Mandarin Chinese Alternates for “Scolding” in Taiwanese Culture

Mandarin	Literal Translation	Degree of Offense	Relational Connotation
被批評	criticized	moderate to severe	formal
被責罵	scolded	severe	formal
被海幹*	fucked up ocean size	mega severe	informal and macho
被大幹*	fucked up big time	very severe	informal and macho
被幹*	fucked up	severe	informal and macho
被刮鬍子	beard shaven	moderate	informal and macho
被罵	scolded	moderate to severe	informal
被K	kicked	moderate	informal
被修理	fixed	minor to moderate	informal
被唸	nagged	minor to moderate	informal

APPENDIX B
An Exemplar of Masculine Buddy Talk in the Workplace

Mark (33 seconds)	
1. I asked Luke to write the paper	(medium volume, medium paced)
2. and to get the application ready	
3. He didn’t even write one fart word.	
4. What else could I do about this?	
5. Then he waited till the last day and said	
6. We did not respect him.	
7. We only asked him to rubber stamp things.	
8. What kind of logic is this? <pause>	(loud, sniping)
9. Nonsense happens around him too often	(loud and irritated)
10. I don’t even want to ...	
11. <paused for three seconds and sighed softly>	
12. don’t want to deal with him.	(frustrated, lower tone)
13. <paused for 2 seconds>	
14. dealing is really painful	(Joseph sighed in the background)
15. dealing with him is really painful	(frustrated, hushed voice, emotional)
16. Last time what was the...	(picking up speed, louder, into story
17. you ought to know about the other project X	telling mode, joyous)
18. It was like what I just said	
19. I don’t know hu...that day I right there	(tone change, more playful)
20. On stage he was at the podium	(really fast paced, joyous)
21. And I was in the audience <u>fucking him up</u>	(laughing and loud)
22. Were you there that day?	(playful)

Stephen (1 second)

23. I was there. I was there.

(soft tone, fast paced)

Mark (17 seconds)

24. I almost never fucked him up in the public, right?

(loud and fast)

25. I could not stand it any more, you know?

(really loud)

26. Joanni sitting behind me

(story telling mode, fast loud joyous)

27. repeatedly saying to me like

(story telling mode, fast loud joyous)

28. "Calm down! Calm down!"

(laughing, loud, fast paced, in English)

29. I waah pipipapa just fucking him up.

(dramatic slapping sound, tone joyous)

30. I had no choice. I could not stand it.

(decreasing in volume and speed)

31. I was never like this...lost manners that day

(medium voice, like murmuring)

32. I repeatedly fucked him up a few times

(getting louder and faster)

33. Huh ha ha ha ha ha ha

(loud and laughing for extended time)

34. I could not stand it

(laughing still)

35. Did you guys feel very surprised?

(tail end of laughter, resuming soft tone)

Stephen (6 seconds)

36. Yes...yes I felt that...

(hesitant and soft voice)

37. You overreacted heh heh

(soft voice and chuckling)

Mark (3 seconds)

38. It was not...because

(soft and gentle voice, slow paced)

39. I had to endure him for too long

Stephen (1 second)

40. Hm...

(barely audible)

APPENDIX C**Confiding Bitterness Excerpt 1**

(Talk lasted for about 5 minutes, occurring in the early part of the private conversation between Mark and Stephen at North Tech)

Stephen (29 seconds) (Mandarin with pleasant Taiwanese accent)

1. I felt a bit upset upset at how to say it

(gentle tone, even paced)

2. How could people uphold constantly

3. such a view of personnel

4. since these guys knew this person in this role

5. could not possibly play a good game

6. then I told the boss <pause> ok, boss if now

7. you have decided on the job assignment

8. and Rockie is chosen

9. Then I told the boss if he would allow me

10. to go beyond my job duty and say one thing

11. I told him that if I may go beyond my job duty

12. and tell him one thing

13. Rockie's technical competence is not strong

14. but boss surprised me by saying (pace picked up, faster)

15. <Someone knocks on the door>

16. <pause for three seconds> (silence)

Mark (1 second) (perfect Mandarin)

17. And what happened (gentle, soft and prodding)
(sound of door closing)

Stephen (6 seconds)

18. And Boss responded to me saying (gentle tone, even paced)

19. His being weak could not be blamed on him

20. because it was the residual poison

21. his predecessor had left behind and I <Mark talking over Stephen>

Mark (2 seconds)

22. It should not have been argued this way (forceful & loud)

23. It had been more than 2 years <Stephen continued on>

Stephen (37 seconds)

24. My heart... my heart felt...right officer (louder and faster paced, accentuation)

25. I just felt very upset upset because upset

26. my heart says didn't management books teach

27. once you are hired and given time to manage your troop

28. then you do not manage but lead to the result of

29. residual poison which should not have been with you

30. Why in our organization we have to

31. accept this disaster willingly that

32. people nowadays do not have competence

33. Then I did not even...because people under you (pace picked up even more, assertive)

34. could not see that rescue is performed

35. but people above you feel that you have tried

36. to rescue for so long even though you failed

37. you have already done your best

38. I just wonder why <pause> (troubled and agitated but still gentle)

39. viewpoints are so far apart <audible inhaling by Mark in background>

40. so I felt really frustrated <heavy exhaling by Mark, a heavy sigh>

41. <Stephen paused for 1 second>

42. in the past when I worked under Rockie (troubled and agitated but still gentle)

43. I felt <pause> in leading people

44. leading the troop in this area

45. he did devote his mind fully

Mark (1 second)

46. Yah...

Stephen (3 seconds)

47. So at that time I felt exceedingly frustrated (tone gentle but agitated, fast paced)

48. I to the boss that day we talked

49. So I said

Mark (2 seconds)

50. Did you talk to him straight? (gentle but louder than Stephen)
 51. You did not

Stephen (17 seconds)

52. Yes I told Boss that from Rockie (loud & a bit defensive)
 53. Since he was my elder at the university (gentle tone resumed)
 54. It's inappropriate for me to say this
 55. But since I joined the firm until now
 56. In all areas I do things
 57. relying on my own observation
 58. Rockie never taught me anything
 59. Boss then corrected me saying
 60. Why do you still think
 61. You are here to learn
 62. But I really feel that I have put
 63. diligent efforts to do things
 64. and I truly want to learn

Mark (1 second)

65. You have good reason to think this way (gentle & supportive tone)

Stephen (20 seconds)

66. But Boss thought that (gentle)
 67. Why was I still in the stage of learning
 68. *Anyway* I told boss that ("Anyway" said in English, loud)
 69. I could not learn anything from Rockie
 70. Management and supervision none of these
 71. I could not learn any of these
 72. To place judgment and the logic
 73. I could not learn these either
 74. I could only guess on my own
 75. To see if certain ways of judging
 76. Officers have officers' vision
 77. But even if I want to learn I can't (faster, lighter tone)
 78. <pause for 3 seconds>

Mark (1 second)

79. Hm...

Stephen (62 seconds)

80. Right, in my view
 81. We would instruct people working under us
 82. Today you are gonna to buy an item
 83. at a few hundred thousand dollars
 84. What's the purpose of this purchase?
 85. You may want to rely on what you can invest
 86. Rely on add-on cost, rely on future planning

87. To assess how to make the decision ("decision" in English)
 88. Because our people are still growing
 89. If we have the same view then we can
 90. But I have never learned these things (louder and agitated)
 91. Sometimes I felt very *confused* ("confused" in English)
 92. From now on what I have gained
 93. Sometimes I was very angry very angry
 94. Angry because I think that
 95. it was quite easy for the boss to pick Rockie
 96. this is because the boss is too busy, so busy that
 97. he needs to find someone to check in
 98. He might not be sure of this person's function
 99. *Anyway* this person chosen could follow his order (anyway and follow are in English)
 100. This is what I think so at that time
 101. I felt really frustrated
 102. <pause> furthermore of late
 103. I have been reading classical Chinese books especially
 104. I think loyal officials all died a really tragic death

Mark (2 seconds)

105. Ha ha ha ha ha. (laughing, loud & continuous)

Stephen (1 second)

106. It is really like this (fast paced, excited)

Mark (4 seconds)

107. < Mark continued chuckling>

Mark (12 seconds)

108. Stephen the other day I the reason why (gentle, lucid speaking)
 109. the reason why my emotion was stronger
 110. than yours was because what you just said
 111. was what I had wanted to say on that day.
 112. Rockie knows how to hug the thighs
 113. and then (thigh hugging=brown nosing)

Stephen (3 seconds)

114. So so..I have gained (agitated, fast but gentle)
 115. a different view of the profession
 116. quite honestly speaking

Mark (11 seconds)

117. Then you should figure out (stronger, louder, increasingly angry tone)
 118. Why Rockie knows how to hug the thighs.
 119. <pause for 1 second>
 120. And then why can't you do thigh hugging? (speaking accelerated, louder)
 121. Why can't I do thigh hugging?
 122. Let us talk about one more person
 123. Why can't big sister Maggie do thigh hugging?
 124. <pause for 1 second>

Stephen (6 seconds)

125. In fact I I I I do not know why

(agitated, stuttering but still quite gentle)

126. I never thought about

127. A better way to put it

128. I never thought about

129. why one should not hug thighs

130. My position is that

131. why should I hug the thighs?

(words accentuated)

Mark (1 second)

132. That's a great topic!

(Mark talked over Stephen, loud)

Stephen (2 second)

133. I do things well

(agitated but more assertive)

134. Why should I hug the thighs?

Mark (15:39)

135. Yours and my view are the same

(loud, assertive, a bit angry)

136. So we **do not** hug the thighs, right?

(words accentuated)

Stephen (6 seconds)

137. Ya...to the contrary

(agitated, assertive, accelerated)

138. today if the boss likes thigh hugging

139. It befalls us to feel the *challenge*

("challenge" in English)

140. Have I selected the right boss?

Mark (1 second)

141. What you said is right on

(loud and assertive)

Stephen (3 seconds)

142. My degree of loyalty to the company

(agitated, assertive, accelerated)

143. has diminished

144. I have to say this

Mark (38 seconds)

145. What you just said was right on

(fast & assertive)

146. What you just said was right on

147. So frankly speaking for these things

(gentle and a bit relaxed)

148. I hinted at them with the boss

149. I hinted at them with the boss

150. In the past for Roger's case

151. I showed him my cards

152. I won't go into details

153. I showed boss my cards

(louder & accelerated)

154. Boss didn't think I helped Roger enough

155. And I said I had **helped** him

156. **helped** so much that my **heart** felt

157. so I stopped helping

158. And he asked me

159. why I was willing to help Rockie at all

160. I said at least Rockie would not interfere with my work
 161. What Rockie did was
 162. to push the boat in the direction of the currents
 163. He did not want to be responsible for anything
 164. And if you were willing
 165. to cover his duty then you cover it
 166. then it was ok with Rockie
 167. His responsibility <pause> (lower tone, not as agitated)
 168. becomes less
 169. His pressure becomes less
 170. <pause>
-

Appendix D

Confiding Bitterness Excerpt 2

(Talk lasted for roughly a minute a half; occurring in the end of the private conversation between Mark and Stephen at North Tech)

Mark (25 seconds)

1. If one day you manage to change (lower tone, teasing)
2. Knowing how to ingratiate and brown nose
3. The crowd will talk about you this way
4. You ought to decide what kind of person
5. you want to become
6. I am not against you doing a bit more politics (loud suddenly)
7. But your own character and style
8. And what you manage to do
9. I have told you this
10. What kind of person you think you are
11. And how people gauge you
12. You need to make it happen yourself
13. <pause for 2 seconds>
14. one does not need much bitterness [ku ha ha de]. (lower volume, soft)
15. That is one needs to be happier,
16. you understand it
17. otherwise life will be indeed tragic. (soft and murmuring)
18. <pause>

Stephen (18 seconds)

19. Actually I think, let me share with officer a bit (soft tone)
20. After last week my heart was quite joyous (more spirited tone)
21. Happy for a few days
22. I was quite happy in a few areas
23. Because a lot of people asked me
24. Why is it? (story telling)
25. <pause>
26. You have done a good job,
27. Why is it given to someone else?
28. That is I think it is a bit like (searching for words)

Mark (1 second)

29. People felt enraged by the lack of justice
 30. because they have witnessed
 31. moral principles being violated (jian yi bu ping) <Mark talking over Stephen>

Stephen (6 seconds)

32. Right right right right right (fast & happy tone)
 33. It did not feel too bad <Mark clapping in the background>
 34. In the company
 35. There are many people
 36. Who would help on their own
 37. So I think at least
 38. There's some

Mark (5 seconds)

39. This is exactly due to your reputation (loud and affirmative)
 40. That is the reason why when you told me (louder & accelerated)
 41. About the Rockie decision
 42. Before it was formally announced by boss
 43. I [Fuck] his mother's
 44. I emitted such a big fire

Stephen (15 seconds)

45. <chuckling softly>
 46. You were right just to say that (fast and gentle)
 47. <a long sigh>
 48. In this world when things are divided evenly
 49. Or when the boss divides things evenly
 50. with no discrimination
 51. <pause>
 52. It's like when boss told me
 53. In my face two or three times
 54. John is too bookish and this that (imitating boss speaking)
 55. But I think John has put in honest efforts

Mark (1 second)

56. You were right (affirmative)

Stephen (7 seconds)

57. He favors those kind of people like James (gentle but firm)
 58. who can scold people scold them into the bones (accelerated)
 59. that kind he likes that kind
 60. that kind of management style