

OBJECTIVITY OF KNOWLEDGE AND AUTONOMY OF THE CULTURAL WORLD

OBJETIVIDADE DO CONHECIMENTO E AUTONOMIA DO MUNDO CULTURAL

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Abstract: *In this paper, I use Peirce's distinction between the anancastic and agapastic modes of evolution to pinpoint what I regard to be the strategic tensions in Karl Popper's evolutionary account of objectivity. The distinction between subjective and objective knowledge constitutes one of the central themes in Popper's philosophy of science. Popper locates the subjective in the realm of conscious experiences and beliefs; and the objective, in the realm of the cultural products of human mind, such as theories, artworks, etc. Interestingly enough, Popper maintains that the denizens of the latter realm ("world 3," in his idiom) enjoy certain autonomy with regard to the realm of conscious experiences (or "world 2"). In other words, on Popper's view, the content of our theories must be determined by something over and above the explicit content of our discursive practices. This suggestion is all the more intriguing since Popper explicitly denies the possibility of an unmediated confrontation between our theories and events in the world of physical things ("world 1"), which serves as our intuitive paradigm of the real. My argument indicates that the interpretation of Popper's account of autonomy and objectivity of the cultural world depends on the way in which he construes the pivotal notion of intersubjectivity, which can be read either along adjusted anancastic or agapastic lines, with the latter being the more promising alternative.*

Keywords: *Objectivity. Intersubjectivity. Evolution. Causation. Naturalism. Culture.*

Resumo: Neste trabalho faço uso da distinção peirceana entre os modos de evolução anancástica e agapástica para ressaltar o que considero como as tensões estratégicas no relato evolucionário da objetividade de Karl Popper. A distinção entre o conhecimento subjetivo e o objetivo constitui um dos temas centrais da filosofia da ciência de Popper. Popper localiza o subjetivo na esfera das experiências e crenças conscientes; e o objetivo, na esfera dos produtos culturais da mente humana, tais como as teorias. Não deixa de ser interessante, Popper afirma que os habitantes desta última esfera ("mundo 3," no seu idioma) gozam de certa autonomia em relação à esfera das experiências conscientes (ou "mundo 2"). Em outras palavras, do ponto de vista de Popper, o conteúdo de nossas teorias deve ser determinado por algo além e acima do conteúdo específico de nossas práticas discursivas. Esta sugestão é muito mais intrigante uma vez que Popper explicitamente nega a possibilidade de uma confrontação não mediada entre nossas teorias e eventos no mundo das coisas físicas ("mundo 1"), que serve como nosso paradigma do real. Meu argumento indica que a interpretação do relato de Popper da autonomia e objetividade do mundo cultural depende do modo como ele constrói a noção axial da intersubjetividade, que pode ser lida quer ao longo de linhas anancásticas ou agapásticas, com a última sendo uma alternativa mais promissora.

Palavras-chave: Cultura. Popper. Anancasticismo. Agapismo. Evolução.

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According to Karl Popper, our cultural products, like scientific theories and works of art, enjoy a degree of autonomy with respect to the physical world and the present content of human consciousness: the autonomy which enables them to anticipate the future outlines of both our consciousness and the world.¹ This conclusion impressed itself upon Popper as a

¹ K. Popper, *In Search of a Better World: Lectures and Essays from Thirty Years* (New York: Routledge, 1992), 8 & 105. I am citing one of the latest references, but the theme of the autonomy was well established in Popper's work as early as the 70-ies, and has been sustained ever since.

natural corollary to his theory of evolution of human knowledge, and the purpose of this paper is to both get a sense of the theory Popper advances and to establish the place of the autonomy thesis within it. To this end, I enlist a distinction between two different modes of evolution introduced by C.S. Peirce: between *anancasm*, the development by virtue of mechanical or logical necessity, and *agapasm*, or a purposeful development guided by evolutionary love or, less poetically, an abductive insight nursed into maturity by care and concerted intellectual effort.²

An example of anancasm would be a scholar forced to recognize that his theory leads to a logical contradiction; and of agapasm, a trainer who spots a promising horse and subjects it to an appropriate training regimen. Agapasm, then, essentially incorporates a subjective element, insofar as we are guided by an intuition or a hope, but retains its objectivity insofar as the object of this hope is believed to be real. This distinction, in my view, enables us to zero in on an interesting tension in Popper's theory and suggests some preliminary lines along which a more detailed comparison between Popper and Peirce could be developed.³ Specifically, I concentrate upon the conflict between anancastic and agapastic tendencies in Popper's thought: of which the first is unquestionably dominant while the second is more nuanced and promising.

Popper talks about three different worlds: the world of physical phenomena which he considers to be paradigmatic of our idea of the real (W1),⁴ the world of conscious experiences and subjective knowledge (W2),⁵ and the world of the *logical contents* of cultural products such as books, records, and works of art (W3).⁶ While acknowledging that W3 is a "genetic product" of the world of conscious experience (W2), Popper also stresses the measure of independence that W3 enjoys due to its inner logic, its "partly autonomous internal structure."⁷ The knowledge of W3, according to Popper, is objective and consists in grasping the logical relationships between accomplished cultural products; whereas the history of their

² Hartshorne, C., Weiss, P. & Burks, A., eds., *Collected Papers of Charles Sanders Peirce* (Cambridge: Harvard University Press, 1931-58), 6.302 & 6.307

³ Popper explicitly opposed pragmatism as a philosophy of science in K. Popper, *Objective Knowledge: an Evolutionary Approach* (Oxford: Clarendon, 1972), 311. However, his frequently asserted commitment to fallibilism (for example, in K. Popper, *Postscript to the Logic of Scientific Discovery, Volume 3: Realism and the Aim of Science* (Totowa, NJ: Rowman and Littlefield, 1982), 35, or *In Search*, 4 & 199) and common-sensism (K. Popper, *The Logic of Scientific Discovery* (New York: Harper Torchbooks, 1965), 19, *Objective*, 33, *Realism*, 129, *In Search*, 182), as well as his direct acknowledgment of Peirce's influence in the discussion of indeterminism (K. Popper, *Of Clouds and Clocks* (St. Louis: Washington University Press, 1966), 5), render the comparison intriguing and promising. In rejecting pragmatism, Popper seems to have in mind the pragmatism of James's ilk, which he takes to be closely related to crude instrumentalism. Peirce, of course, was very critical of that kind of pragmatism as well.

⁴ See K. Popper, *Postscript to the Logic of Scientific Discovery, Volume 3: The Open Universe: An Argument for Indeterminism* (Totowa, NJ: Rowman and Littlefield, 1982), 116 & 122; also *In Search* 8 & 182 and K. Popper, *All Life is Problem Solving* (New York: Routledge, 1999), 24

⁵ *Objective*, 108, *In Search*, 8 & 17

⁶ "Logical content," however, is construed by him very broadly. The paradigmatic insiders are linguistic entities such as theories and statements (*Objective*, 157) the inclusion of which supplies a clear sense of what Popper means by saying that W3 is inhabited by the "objective thought contents" (*In Search*, 8). But Popper is quick to add in the products of art and technology, including, in his generous moments, shoes, airplanes, and saucepans (*ibid.*, 8 & 105). The latter, among other things, exemplify the tangible effects of W3 on W1, since these material objects could not come into existence without the mediation of ideas that endow them with a human purpose. Thus, it may be better, instead, to speak, as he sometimes does, of the world of "intelligibility" or "intelligible structures" (*Objective*, 154 & 166).

⁷ *All Life*, 26

genesis remains a subjective affair of W2, best left to psychologists and sociologists.⁸ The ability to stand in logical relationships is what sets W3 denizens apart from W2 and W1, where the only relationships are the causal ones.⁹ This, then, is one important sense in which the world 3 can be said to be autonomous with respect to the other two.

In fact, Popper believes that “there exist autonomous World 3 objects which have not yet taken up either World 1 shape or World 2 shape, but which, nevertheless, interact with our thought processes.”¹⁰ In other words, there are entities which exist as logical possibilities only, yet exert a causal influence upon our conscious processes. W3 originally emerges from W2 and continues to be influenced by it, insofar as new problems that emerge in W2 may add new objects to W3.¹¹ However, W3 also contains and generates its own problems, independently of W2, such as the problems that every new theory gives rise to; and some of these problems, on Popper’s view, can only be discovered in W3, and infinitely many remain forever undiscovered.¹² The reason Popper cites for their existence is that human products (including theories) have objective and unexpected consequences, whose reality does not depend on our ability to recognize them.¹³

The interpretation of these claims depends on what we take the logic of the cultural world to be. If the internal structure of W3 which, on Popper’s view, constantly affects human consciousness and renders it human in the first place,¹⁴ is thought to be a unified logical structure in the classical sense, then an anancastic interpretation would be most appropriate: with logical necessity substituting for the natural one in the course of evolution. The undiscovered portions of W3 would, then, be conceptualized as the logical consequences of our current theories that no one as yet had the astuteness or industry to discover. However, it would be a deterministic and a static world, which accords poorly with Popper’s professed commitments. On his view, the discoverable potentialities that arise as the unexpected consequences of our conceptual decisions must be distinguished from the Fregean eternal truths.¹⁵ He insists that the “third world is man-made and changing”¹⁶ and that the passing nature of our theoretical conjectures bears the best testimony to their reality.¹⁷

At least on one occasion, Popper resorts to the notion of a conceptual “horizon” to describe the internal development of W3. Thus, he contrasts the horizon of expectations of an infant or an animal with that of a scientist, whose horizon is enriched by linguistically formulated theories, and suggests that only with a reference to such a horizon, or a frame of reference, do

⁸ *Objective*, 114

⁹ *Objective*, 298, *Open*, 119

¹⁰ *ibid.*, 119-120

¹¹ *Objective*, 119

¹² *Objective*, 161

¹³ *ibid.*, 118

¹⁴ Popper believes that the internal structure of W3 exerts an influence on the human mind (*Realism*, 95, *In Search*, 22- 23). In fact, there seems to be nothing specifically human about consciousness as such. Human consciousness is distinguished precisely by its engagement with the “linguistically formulated theories” (*Objective*, 74), in virtue of being controlled by the “exosomatic linguistic systems” produced by another consciousness (*Of Clouds*, 29). The very notion of the human “self” according to Popper does not emerge until the intimate connection between W2 and W3 is securely in place (*Open*, 158-9). Hence, W3 plays a paramount role in causally determining the processes of W2, but the individual contributions of a W2 process to the structure of W3 are at best very slight (*Objective*, 147).

¹⁵ *Objective*, 112

¹⁶ *ibid.*, 122

¹⁷ *ibid.*, 300

our experiences acquire meaning and significance.¹⁸ He then goes on to explain that certain experiences can have a “bombshell” effect leading to the restructuring of the horizon itself, which takes place on a “higher level” and constitutes “a new stage in the evolution of our experience” while incorporating and partially rebuilding some elements of the earlier horizon.¹⁹ This dynamic model depicts W3 as a succession of shifting conceptual horizons, each with its own set of potentialities, which may no longer be available once the horizon recedes. As such, it defies any purely mechanistic description of the structure of the cultural world and imposes upon us the recognition that, although *some* constituents of W3 can and do stand in logical relationship to each other, there are also other forces at play. Yet, it is unclear that Popper would be comfortable accepting these consequences.

One thing that is clear is Popper’s desire to draw a line between the development of knowledge in the natural and cultural worlds. He does consider the process of adaptation by organisms in nature to be a kind of problem-solving, but this problem-solving is *never* completely conscious, and the most we can say is that “consciousness sometimes intervenes” in it.²⁰ However, at a certain point in its history humanity undergoes a transition from the endosomatic to the exosomatic mode of evolution: meaning that humanity’s adaptation to its environment, from that point on, proceeds primarily not through a modification of the internal structures, but through the alternating modes of externalization or production which modify the species’ relationship to its environment.²¹ This capacity for externalization or objectification, in turn, enables us to engage in a critical discussion, characteristic of the sciences,²² which helps us eliminate unfit theories while escaping the violence and death associated with the natural selection.²³ In this manner, “conscious selection of theories” replaces the natural selection which is “partially overtaken by the critical, cultural selection.”²⁴ Surprisingly, this change also alters the goal of our inquiries since, according to Popper, neither can knowledge be understood as an instrument in the struggle for survival, nor do the fittest hypotheses coincide with those that benefit us most in the naturalistic terms.²⁵ The aim of knowledge, as it turns out, is not the improvement of our biological lot but rather a proactive indulgence of our curiosity, of our desire to have things explained in the most universal terms possible.²⁶ Theoretical exploration, on Popper’s view is animated by the desire to get nearer to the truth instead of “the idea of helping us survive.”²⁷

Much of Popper’s best-known work in philosophy of science can be seen as a sustained attempt to defend the autonomy of the developments in the cultural realm of theory from determination by naturalistic causal laws. Thus, his famous critique of induction²⁸ ultimately

¹⁸ *Objective*, 345

¹⁹ *ibid.*

²⁰ *In Search*, 17

²¹ *Of Clouds*, 20. Thus, both Einstein and the amoeba are engaged in solving the problems of adaptation but, unlike the amoeba, Einstein is not personally identified with his solutions: his solutions are objectified in an external medium enabling him to approach them in a critical fashion and even to reject them altogether (*Of Clouds*, 26, *Objective*, 24-25, *All Life*, 7, 10, 39, 73): “in science,” says Popper, “we get our hypotheses to die for us” (*Of Clouds*, 27, *Objective*, 122 & 261, *All Life*, 10). This, of course, is one of Popper’s pet themes.

²² *All Life*, 16

²³ *Objective*, 84 & 148

²⁴ *In Search*, 21

²⁵ *Objective*, 264

²⁶ *ibid.*, 263-264

²⁷ *ibid.*

²⁸ Naïve induction assumes that our mind collects the experiential givens and consequently synthesizes them into theoretical wholes that grow out of these experiences and are, accordingly, justified by them. Popper regards

leads him to the conclusion that our hypotheses are autonomous in the sense that they do not need to grow out of the fabric of experience – they are “inventions” rather than generalizations²⁹ – and we can evaluate their soundness without inquiring into their origins.³⁰ Unlike a belief, a hypothesis, on Popper’s view, does not require justification³¹ – its value is independent of its causal history and psychological plausibility. If knowledge is thus construed as an inventive guesswork, then the value of a given statement depends solely on the way in which it enters into the current critical discussion and on the direction that this discussion takes:³² its meaning is supplied not by what we know or believe, but rather by the repertoire of the roles it can play (or values it can acquire) in the various critical discourses.³³ Subjectivity of belief is thereby resolved into a neutral signification of the form in which the conjecture first appears, and the intersubjective interpretive process that fills out its meaning through successive acts of determination.

Popper’s critique of the notion of uninterpreted data can be read along similar lines.³⁴ According to Popper, we should guard against introducing any ultimate statements into our picture of science since, qua psychological statements, they do not admit of intersubjective testing because “inter-subjective testability always implies that from the statements which are to be tested, other statements can be deduced.”³⁵ In other words, intersubjective testability implies interpretability, which rules out the reliance on the ultimate uninterpretable statements or natural “givens.”

It appears, then, that Popper intended to remove theoretical knowledge from the realm of naturalistic mechanical determination and to ground its objectivity in the intersubjective discussion and testing: by appealing to a concerted effort to eliminate error and through the application of the objective principle of contradiction.³⁶ But, having left the naturalistic framework behind, Popper needed to undertake the explanation of what it means to eliminate error, objectively speaking. Let us remind ourselves, then, that, according to Popper, the purpose of all biological development “from the unicellular amoeba to Albert Einstein”

this kind of induction as a myth (*Objective*, 23 & 98) because: theories must transcend the empirical instances that give rise to them (*ibid.*, 355); theories are stated in universal terms and cannot, therefore, be inferred from any number of singular statements ‘verified by experience’ (*Logic*, 40); the only kind of inference from a singular statement that can have implications for a universal statement is the argument to its falsity (*ibid.*, 41); hence, theories are deductive systems which function by prohibiting the existential singular statements that, if true, would falsify them (*ibid.*, 69).

²⁹ *Realism*, 118

³⁰ *Objective*, 122

³¹ *Realism*, 22

³² *ibid.*, 86

³³ This explains Popper’s desire to distinguish between objective science and “our knowledge” (*Logic*, 98).

³⁴ Popper maintains that there is no such thing as uninterpreted data (*Realism*, 102) because all knowledge is theory-impregnated (*Objective*, 104), and even singular statements are “interpretations of the ‘facts’ in the light of theories” (*Logic*, 423). The uncertainty clings even to the observational terms (*In Search*, 45), because our perceptions are dominated by our momentary expectations and interests (*All Life*, 52), by the expectations built into the very structure of our sense organs by the evolution (in the form of dispositions to favor some stimuli and to ignore others) (*Objective*, 72, 145-146; *All Life*, 38, 51, 59, 63) and by the part that these observations must play in making our theoretical decisions (*Objective*, 258, *In Search*, 50, *All Life*, 6). In short, observations always presuppose a background of dispositional knowledge, culturally and phylogenetically acquired, which ensures that only some stimuli receive attention, that “observation is the result of a stimulus that rings a bell” (*Realism*, 99).

³⁵ *Logic*, 47

³⁶ *ibid.*, 44, *In Search*, 4 & 67

consists in trying to adapt to the environment.³⁷ And in the case of humans, in his opinion, the primary mode of adaptation consists in the attempts to represent W1 and W2 in the theories of W3.³⁸ W3, then, emerged when humans, instead of living in the world, began representing it. As a representation of W1 by W2 it is (partially) autonomous with respect to each of them, and it is autonomous with respect to both insofar as, in representing the world, it is obliged to include itself in the representation. Hence, certain parts of W3 qua representation must be determined by the features of W3 qua represented. Therefore, the intrinsic structure of our present thought must determine the future insofar as it will become comprehended (or interpreted) by another thought attempting to represent it.

While this supplies an interesting addition to what is meant by the autonomy of the cultural world, it does not yield a criterion of error of the kind that Popper is after. It appears, in fact, that despite the repeated appeals to interpretability and intersubjectivity, Popper does not have sufficient faith in either when it comes to the articulation of objective knowledge – unless, that is, interpretation and intersubjective discussion are conducted in accordance with certain rules that themselves remain non-negotiable. Popper compares this to a process of deliberation by the jury acting under certain procedural rules.³⁹ It is, then, the articulation of such explicit “methodological rules”⁴⁰ that Popper regards as his self-appointed task.

Thus, the theme of representing the world, with Popper, quickly turns into an argument for using correspondence to reality as the measure of a theory’s excellence. It is the idea of truth as correspondence to the facts which, according to him, makes critical discussion possible in the first place.⁴¹ Trouble is, Popper never succeeds in articulating what the correspondence to the facts would consist in, and there are good reasons to suspect that his hasty adoption of Tarski’s theory for this purpose was not entirely legitimate.⁴² For as much as Popper insists that truth for him is a merely “regulative idea,”⁴³ his repeated attempts to formulate the de facto quantitative criteria of verisimilitude, or approximation to truth, would tell differently.⁴⁴ Both the truth-likeness of a theory (“verisimilitude”) and the degree of our belief that a theory achieved a certain degree of truth-likeness (“corroboration”)⁴⁵ admittedly do not allow for an assignment of a “numerically calculable” grade, but they do indeed come very close to it,⁴⁶

³⁷ *All Life*, 64

³⁸ *Objective*, 148

³⁹ *Logic*, 110

⁴⁰ *Objective*, 30

⁴¹ *ibid.*, 264 & 290

⁴² For discussion, see S. Haack, "Is It True What They Say about Tarski?", *Philosophy*, 51 (1976), 323-336, L. Moreno, "Tarskian Truth and the Correspondence Theory" *Synthese*, 126 (2001), 123-147, H. Keuth, "Tarski's Definition of Truth and the Correspondence Theory", *Philosophy of Science*, 45 (1978), 420-430, and R. Jennings, "Popper, Tarski and Relativism", *Analysis*, 43 (1983), 118-123. At times, Popper makes it seem that his insistence on correspondence is nothing but a way of stating his commitment to metaphysical realism which, although not provable, is vindicated by its close affinity with common sense (*Objective*, 38-9, *Realism*, 80-81). Correspondence, here, is supposed to merely enable us to speak “of a reality different from the theory” (*Objective*, 317), to indicate that there is always space outside any given theory. Thus, he would be interpreting Tarski’s schema as a possibility of a retreat to a metalanguage which would allow us to compare theoretical statements (translated into metalanguage) to that which they are about (stated in metalanguage). The problem is that, if this version of the argument is adopted, there can be no serious talk of real facts; and the correspondence itself – when established – would be relative to the metalanguage of choice. This, it appears, would not suffice for Popper’s purposes.

⁴³ *Objective*, 318

⁴⁴ *ibid.*, 52 & 57

⁴⁵ *Realism*, 58

⁴⁶ *Logic*, 266-268

suggesting a much better understanding of truth as a determinate concept than Popper's formulations would lead us to expect. Thus, when Popper finally concedes that his attempts at a formal definition of verisimilitude were in vain, we know that it was certainly not for the lack of trying.⁴⁷

Popper's repeated attempts to define a mechanistic procedure for choosing between competing theories empirically or by purely formal criteria are also well known. In the early days, he suggested that a theory may enable us to deductively formulate the conditions under which it can be decisively falsified – i.e. the conditions of a 'crucial experiment' – but the proposal never really took off.⁴⁸ He also stipulated that, in order to replace the old theory, a new theory has to subsume it in the sense of being successful where the old theory succeeded but also avoiding some of the old theory's errors.⁴⁹ Logically, there is a problem of distinguishing truth from error when comparing competing theories that do not necessarily presuppose a common background theoretical framework; historically, it is simply not the case that later theories included earlier ones in the fashion suggested – which prompts Popper to admit that the requirement of "correspondence" as he calls it is desirable but not at all necessary.⁵⁰ Ultimately, it becomes clear that, as Popper acknowledged early on, all appraisals of theories must be conjectural just like the theories themselves.⁵¹

Finally, Popper made some efforts early on to recuperate the strong version of his account of falsification, despite acknowledging the difficulties posed by the problem of the interpretability of data, and the possibility of immunizing a theory against contrary evidence.⁵² Falsification, as Popper explains, is extremely important because it allows us to "get in touch" with reality⁵³ by pitting our theories against "something we never made."⁵⁴ Observation statements, according to him, do provide a good starting point in this regard,⁵⁵ because, after all, we must stop at some basic statements which we simply "decide to accept."⁵⁶ Once what counts as the basic data is determined by a conventional decision,⁵⁷ all that one needs, to implement the mechanics of falsification, is a deliberate policy of avoiding immunization of theories⁵⁸ against contrary evidence and a commitment to using the strongest available (i.e. classical) logic to evaluate the content of theories.⁵⁹ Yet, however appealing Popper's proposals to this effect may be, it is difficult not to regard them as somewhat arbitrary.

⁴⁷ *Realism*, xxxvi-xxxvii

⁴⁸ *Objective*, 14, *Realism*, 55

⁴⁹ *Objective*, 14 & 202, *Realism*, 57-8, *In Search*, 39

⁵⁰ *Objective*, 203 & 358

⁵¹ *ibid.*, 58

⁵² Popper was always aware of the fact that the data contradicting a theory can be interpreted away with the help of ad hoc explanations (*Logic*, 42 & 50, *All Life*, 17). He even claimed to see the attractive side of the dogmatic attitude which commends such immunization, in order to save a well-established theory from a premature defeat (*Objective*, 30). Following Quine's holistic attack on reductionism, Popper announced that, since all terms are theoretical (*Realism*, 211), and since any attribution of falsity to any particular statement in a theoretical system is highly uncertain (*ibid.*, 187), "there is no routine procedure, no automatic mechanism, for solving the problem of attributing the falsification to any part of a system of theories" (*ibid.*, 189).⁵²

⁵³ *Objective*, 360

⁵⁴ *ibid.*, 197

⁵⁵ *ibid.*, 72-3

⁵⁶ *Logic*, 104-5

⁵⁷ *ibid.*, 106, 108, 274

⁵⁸ *ibid.*, 42, *Objective*, 30 & 360

⁵⁹ *ibid.*, 305

It is also difficult to avoid the impression that, having freed theoretical knowledge from the mechanical determination by the natural processes, Popper, instead, attempted to subject it to an equally mechanical regulation by a set of logically restrictive procedures arbitrarily imposed by the research community, resulting in a kind of intersubjectively *simulated* anancasm. His intention is not hard to divine: adopting a restrictive protocol is supposed to curb the subjective elements latently present in any intersubjectivity so as to make the latter a more secure ground for objectivity, immune to the vicissitudes of a psychologically driven, unregulated consensus. But such thorough distrust of subjectivity is itself unwarranted given Popper's commitments: for if human subjectivity emerges as a result of the interaction between consciousness and the cultural world, then subjectivity itself should bear the stamp of the objective from the start.

The same, of course, goes for intersubjectivity: the idea that things are open to negotiation without a priori constraints does not imply that anything whatsoever can be negotiated. A subjective commitment to take things seriously or to make progress on the matter usually serves as an unspoken (and often sufficient) constraint. And without such a commitment, no rules could be imposed or observed in the first place. In a similar vein, Popper's insistence on stringent and objective criticism that instructs us to discard our theories, ignoring whatever attachment we may have to them, illustrates his belief that the personal, subjective, intuitive must not be trusted – in fact, must be warded off like the evil eye. Instructive, in this regard, is the comparison with Peirce who believes that we can never make headway by dealing out cold justice to our ideas instead of nurturing them and helping them grow.⁶⁰ Peirce suggests that we should regard our theories as little persons; Popper's motto is to let our theories die in our stead. Peirce's researcher is guided by an intuition, which threatens to make her sentimental. But Popper's has nothing to guide her at all, since the mechanical anancastic method applies to all conjectures in equal degree, and the tentative indicators of testability which should help us select the more testable hypotheses do not ensure that we will get to testing the right ones in a finite number of steps. On the contrary, since Popper suggests that the best theories (those with the greatest content) are bound to be most logically improbable,⁶¹ any kind of mechanical groping, however systematic, begins to sound like a desperate quest.

However, what I have called the “simulated anancasm” is not the only strand in Popper's thought, although it is the dominant one. Occasionally, he does emphasize what one may call the agapastic tendencies in the production of cultural world: ones that arise from the sense of participation in an intersubjective project to which one aspires to make a personal contribution in the hope that the outcome may have an objective value. Thus, Popper, on occasion, explicitly states that scientists are guided by the “subjective belief...concerning what is promising of impending growth in the third world of objective knowledge.”⁶² As if to indict his own anancastic tendencies, he, occasionally, declares that one should always resist the temptation to regard scientific work as “a more or less mechanical compilation which in principle might be performed by machines,”⁶³ and that we need to constantly remind ourselves that not only our theories emerge as spontaneous and bold conjectures,⁶⁴ but even our critical procedure is “always an imaginative and creative process,” not a “mere

⁶⁰ *Collected Works*, 6.289

⁶¹ *Logic*, 269, *Realism*, 231

⁶² *Objective*, 111

⁶³ *Realism*, 258

⁶⁴ *Logic*, 280

technique.”⁶⁵ In his later work, he goes as far as proclaiming that the history of ideas, of which science forms but one chapter,⁶⁶ is not something that impresses its meaning upon us but rather something that we have a duty to endow with meanings: “meanings that are feasible for, and worthy of human beings.”⁶⁷ All of this, of course, receives little development and is squarely at odds with the mechanistic objectivism for which Popper seems to strive elsewhere.

There is, however, a clue in Popper’s work which could help us develop his views in this rhetorically declared direction: namely, his belief that an engagement in scientific problem-solving, an engagement in the process of science, can help us discover new sets of aims and new sets of values worthy of human endeavor.⁶⁸ Understanding scientific work in this way, as a humanly edifying process, could give a new sense to the idea of autonomy of W3: in W3 we may anticipate the new horizons of development, which as yet have no precedent in the physical world or the world of our consciousness, but which gradually come into being through successive determinations carried out in the world of theory – with representation, thereby, anticipating the reality represented.

This, of course, would mean that the anticipatory structures of W3 emerge as pure potentialities – determinable but not determinate, in Peirce’s phrase⁶⁹ – entirely real, nonetheless, in that every successive attempt at determination seems to point to the same research trajectory by way of filling it out and adumbrating its structural constraints. For example, we only have a general apprehension of what the totality of even numbers may contain, yet in any specific case we can easily state whether the number does or does not belong to this totality, and each case examined adds concreteness to our grasp of the whole. Proceeding in this general direction, it could be possible to develop an account of potentiality on the analogy with Popper’s account of the objective interpretation of possibility.

According to Popper, in the physical world, we encounter “tendencies or propensities to bring about the possible state of affairs” the strength of which can be estimated by the frequency with which they succeed in realizing the possibilities associated with them.⁷⁰ The task of a scientist, then, is to isolate the set of repeatable conditions that ensure the realization of the tendency in question.⁷¹ Hence, theoretically, an anticipation of a tendency precedes the articulation of the relevant conditions under which it can be observed or confirmed. Thus, we decide that we are dealing with a certain recurrent and structured situation before we have any clear understanding of what the elements constituting this situation are. But, of course, this could be applied to theoretical situations as well as to the situations in the physical environment. Thus, we could say that any cultural milieu contains a number of real embedded tendencies which, through selective emphasis of recurrent generating conditions, can be elevated to the rank of the problem-setting situations which, in turn, result in the realization of certain concrete possibilities that could not be themselves envisioned or anticipated in advance, even though they do confirm and conform to the tendencies that originally gave rise to them. On such a view, both problems and solutions gradually emerge and take shape in the process of research, instead of pre-dating it; what predates research is an

⁶⁵ *Realism*, 180

⁶⁶ *In Search*, 132

⁶⁷ *ibid.*, 139

⁶⁸ *Objective*, 117

⁶⁹ *Collected Works*, 6.186

⁷⁰ *Realism*, 286

⁷¹ *ibid.*, 311-312

intuitive grasp of the “situation” in a given field of ideas, which, needless to say, may itself be transformed by the subsequent inquiry.

This, in turn, allows us to address another worry that occupied Popper for a long time: namely, the problem of data or basic statements in science. Popper always emphasized that what counts as data depends on, and is determined by, the problem that one is trying to solve.⁷² The question, then, is how does one articulate a problem without talking about the data? One, after all, must start with something that demands explanation. Popper is certainly right in believing that simple repetition can do little in steering us towards the “problem-worthy” experiences;⁷³ in fact, we are usually interested in explaining the surprising and the unexpected, rather than the routine. What we are interested in, according to Popper, are experiences and effects that are reproducible at will;⁷⁴ but to spot these one must be able to capture what is “typical or universal” about a given occurrence,⁷⁵ that which allows us to see it as a representative of a virtual or possible sequence of events, as a symptom of a recurrent condition. This ability, in turn, still presupposes some far-going assumptions or anticipations about the current state of the field and the nature of problems that it can plausibly give rise to. An estimate of what appears promising or what “works” must be based on the detection of current tendencies or unexplored possibilities in the research literature, in the field itself, and even within the much broader cultural context. And what we look for here is not confined to theories proper, it must include observational protocols, experimental techniques, heuristic rules, testing conventions, and even, perhaps, recognized superstitions.

It is very unlikely, however, that there could be a formal method that would help one determine which possibilities are genuinely promising, and which ways of tackling them are genuinely reliable. Popper himself admits that the only way to get to understand the possibilities involved in a problem is by engaging with the problem over a long period of time;⁷⁶ there are no easy tests to determine which lines of research are worth promoting or even salvaging. And I do not think that there is an objective criterion for determining which possibilities were genuinely there without doing the research. Every area of inquiry contains some genuine and real potentialities, some real developmental possibilities which, on occasion, give rise to tendencies that shape our thinking and practice. But none of this is explicit enough to yield to a formal treatment: sometimes it is decades later that one detects a certain tendency in the field and retrospectively evaluates the possibilities that were correlated with it. Sometimes, of course, one consciously adapts a certain tendency or a habit of thought. I agree with Popper that the fate of inquiry cannot be relinquished to the consensus of the learned: because it seems at least possible that one individual could be right where the majority went wrong. However, I can think of no other measure of the worth of this individual plight than the concurrence of some future community of research which is better situated to judge the matter at hand. The possibilities inherent in the current state of the field may be real and, in that sense, objective; but there may be, as yet, no objective method for detecting or evaluating them. Ultimately, there is probably no better warrant of objectivity than the integrity of the members of our research community. After all, as Justus Buchler once remarked, “that the individual should seek to be compelled by his own product is no more strange than that he should wish to be governed by governors of his choice or by rules

⁷² *In Search*, 50 & 65, *All Life*, 6

⁷³ *Realism*, 40

⁷⁴ *Logic*, 203

⁷⁵ *ibid.*, 89

⁷⁶ *Objective*, 260

of his making,⁷⁷ and the pursuit of objectivity may result from some such subjective inclination.

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⁷⁷ J. Buchler, *Nature and Judgment* (New York: Columbia UP, 1955), 82