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Form follows function in evidence-based public policy: the pragmatist alternative to the positivist orthodoxy

El diseño depende de la funcionalidad en la política pública basada en la evidencia: la alternativa pragmática a la ortodoxia positivista

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Abstract

For quite some time now there has been a push for more evidence-based public policy. The premise has been that policies informed by reliable data and analysis will achieve their expected results. In great measure, this demand has been answered by evidence built on the dominant approach in science: «positivism». In this paper, it is argued that positivism has important shortcomings which make it detrimental to that project. Thus, it makes the case for pragmatism as a plausible alternative. The argument departs from the philosophy of science, establishing the principles underlining each approach and then elaborates how they translate to the production and evaluation of evidence. The abandonment of the positivist pursuit of certainty for a pragmatist recognition of the plurality of human experience and the diversity of contexts allows to set a clearer scope for the use of evidence, potentially enhancing the effectiveness of policies based on it.

Keywords: evidence-based policy, positivism, pragmatism, public policy, philosophy of science.

Resumen

Desde hace cierto tiempo, existe un impulso para políticas públicas basadas en la evidencia. La premisa es que políticas nutridas por información y análisis confiables alcanzarán los resultados esperados. En gran medida, esta demanda se ha respondido mediante evidencia apoyada en el enfoque dominante en las ciencias: el «positivismo». En este artículo se arguye que el positivismo tiene importantes limitaciones que lo hacen perjudicial para ese proyecto. Así, se presenta al pragmatismo como una alternativa plausible. El argumento parte de la filosofía de la ciencia, se establecen los principios que sustentan cada enfoque y se desarrolla cómo se traducen en la producción y la evaluación de evidencia. El abandono de la búsqueda positivista de certezas por la admisión pragmatista de la pluralidad de la experiencia humana y la diversidad de contextos permite establecer un alcance más claro para el uso de evidencias, lo que mejora potencialmente la efectividad de las políticas públicas basadas en ellas.

Palabras clave: política basada en la evidencia, positivismo, pragmatismo, políticas públicas, filosofía de la ciencia.

1

Introduction

Public policies are concerned with actions in order to maintain or change a state of affairs. Their significance for society at large can hardly be overstated as, directly or indirectly, in the short- or in the long-run they affect people's lives (Sen 1999). Additionally, they are of the outmost importance for politicians and policy makers, for they are accountable to their constituents in terms of delivering on their campaign promises, which are translated into policies. Therefore, policy effectiveness has become an increasing concern for many. In this sense, since approximately the turn of the century, there has been a plea in academic and practitioner circles for (more) evidence-based public policy. This is a means to an end. Policy making informed by dependable data and insights is believed to be more effective; that is, it is more likely to do what it is set out to and to achieve its expected results. This has been met, to a large extent, by research and assessment based theoretically on the model of instrumental rationality (Sanderson 2002, Colebatch 1998, Schwandt 1997) and methodologically on measurement, reliability, validity and other aspects pertaining quantitative methods (Shaw 1999); that is, a program abiding by the dominant approach in science: positivism. As necessary and urgent as this undertaking is, and as useful as positivism has been to explain and predict phenomena in the natural world, its application in the social sciences in general, and public policy particularly, may currently be detrimental to this cause.

Based on the success of the natural sciences, positivism uses their assumptions and methods in the social world. This leads to the pursuit of absolute, immutable and universal truths in society (Garcés 2016a). Only claims that meet this high standard are considered reliable and, thus, (scientific) knowledge. The often conclusive tone of positivist research is explained by this expectation and aspiration. Such goal is plausible only due to the philosophical assumptions undergirding positivism, namely, that there is a world «out there», independent of the mind, that can be known as it is (ontology) if only the right methods and strategies are employed, which would lead to knowledge mirroring that world, *i.e.*, achieving objectivity (epistemology) (Jackson 2011, Hollis 1994). The positivist promise is enticing given what is at stake in public policy for stakeholders as well as policy-makers and politicians. Nevertheless, the truth-searching project seems far from actual human experience and making the purposes of research fit into a pre-established design and methods seems akin to making function follow form.

As such, there is an increasing number of voices calling it into question, both theoretically and methodologically. At the level of methods, a telling example is the caution raised regarding the use of experimental methods in general (see, *e.g.*, Al-Ubaydli, List & Suskind 2017, Hennessy & Strebulaev 2015) and its derivation, the randomized control trials particularly (see, *e.g.*, Deaton & Cartwright 2017, Bédécarrats, Guérin & Roubaud 2017), which epitomize the positivist strategy (Moses & Knutsen 2012), dominant in policy evaluation. At the level of theory, it puts insensible expectations for the production of evidence and unreasonable anxiety on those performing it. At this level, relatively less has been said, as the literature has focused on increasing the sophistication of techniques instead of challenging the philosophical paradigm on which they are based. Therefore, such a discussion seems necessary and urgent. In that endeavor, pragmatism is here advanced as a plausible alternative.

Pragmatism is a philosophy that seeks to adequately account for actual human experience. Its focus is on action (Friedrichs & Kratochwil 2009) and practical consequences (James 1904, Peirce 1905). It is a naturalist approach that sees action as a process constituted by the dynamics and exchanges between an organism and its environment (Talisse & Aikin 2011). In this sense, it is described as a transaction that encompasses all action, included that by human beings (Dewey 1985). Whenever human action is impeded, different hypotheses are tried in order to remove the hindrance and further action again (Smith 2004). The attempts made and tools employed can vary in terms of the characteristics of the individual(s) involved as well as those of the context(s). Accounting for such diversity in responses is possible given that positivist assumptions are abandoned: there is no mind-independent world that can be known as it is. The world is always confronted from a specific perspective and, thus, all knowledge of the world in imbued by that perspective (Kratochwil 2011). Hence, there are no pre-established methods and techniques to generate knowledge. Instead, the strategies utilized obey the purposes of the investigation, *i.e.*, for pragmatism, form follows function. In that sense, producing evidence pragmatically requires acknowledgement of all the aspects involved in that process and transparent and explicit discussion of them. Evidence so produced presents a more plausible scope of application and, therefore, policies so informed are likely to be more effective.

To flesh out that argument, in this paper it is addressed above mentioned approaches at the level of the philosophy of science and then accounts for their implications for empirical inquiry. The structure is as follows: first positivism is introduced; second, the influence of positivism in the social sciences and public policy is presented; against that backdrop, in the fourth section, it is discussed pragmatism as an alternative to carry out research and produce

evidence; in the fifth, it is elaborated what are the implications of pragmatism for public policy and, in the final section, it is concluded.

2

Positivism

Positivism is the most influential philosophical approach to knowledge production in the social sciences. As such, it also dominates the generation of the evidence that nurtures policy making. This approach is characterized by its firm advocacy for the use of the model of the natural sciences (Noor 2008, Garcés 2016a). In public policy (and the social sciences more broadly), positivism has been the subject of strong and sound criticism from different perspectives (see Sanderson 2002, Crotty 1998, Guba & Lincoln 1989) over the last decades. Nevertheless, the rather conclusive tone of much current research and evidence in public policy, particularly when they present opposing findings regarding the same issue and subject matter, is a sign of both its continuing dominance and limitations.

Discussing positivism is a discussion on the philosophy of science. The philosophy of (social) science can be traced back, at least, to the Greeks. It could be argued that originally philosophy was not conceived to be different from science. In his *Metaphysics*, for example, Aristotle does not differentiate *philosophia* from *episteme* (scientific knowledge) (Waugh & Ariew 2008). The tradition of equating science with episteme and episteme with philosophy seems to endure over the centuries. Perhaps, one of the most evident illustrations of this is Rene Descartes' tree analogy. In the Preface of his *Principia Philosophiae*, he refers to philosophy as being «like a tree whose roots are metaphysics, whose trunk is physics, and whose branches, which issue from this trunk, are all the other sciences. These reduce themselves to three principal ones, namely, medicine, mechanics, and morals» (in Waugh and Ariew 2008, p. 16). In this sense, if not strictly the same, there seems to be, at least, a markedly continuity among philosophy and the known sciences within one clear entity or unity.

The above notwithstanding, Descartes marks a stark contrast with previous philosophical efforts. His project takes place precisely during the emergence of the «new sciences», which sought to rid nature of myth and notions of volition. This can be illustrated by the work of the Scholastics, which, by combining Christian beliefs with classical philosophy, suggests that nature has not only structure but purpose (Bacon 2012). Instead, the new sciences, led by Newtonian physics, endeavored to generate scientific knowledge and explain phenomena by recourse to discovering the universal laws by which the world is

governed. This enterprise was understood as «lifting the veil of nature». Put simply, it was an undertaking to get to know the world as it truly is. The believe was that by using the right tools and methods, nature can become accessible. The notable success of the new sciences in explaining natural phenomena in a reliable manner, and to make it predictable, underscored this believe. In this context, Descartes sought to contribute to that objective by providing the philosophical arguments on which those sciences could build.

Descartes (1956, 1993) develops what is now known as «rationalism». This philosophical tradition can be helpfully elaborated in terms of its ontological and epistemological implications. Ontologically, he distinguishes kinds of substances, namely, the mind and the body. This has also been conceived as a distinction between the mind and the world and therefore it is referred to, henceforth as «mind-body» or «mind-world dualism». Therefore, Descartes regarded the mind as an existing entity differentiated from the other substance. While the mind was a thinking substance, immaterial and inextensible, the body was the exact opposite (Descartes 1993). Further, whereas the latter, because of its material nature was subject to mechanical laws, the former was not. In this sense, the body lacks any mental properties, which are the exclusive jurisdiction of the mind.

This hints towards the epistemological implications of Cartesian thought. Knowledge can solely come from the mind. The body can only perceive, by dint of the senses. However, sense perception is not a reliable source of knowledge, as it can be deceived and fooled (perhaps, visual illusions exemplify Descartes' point nowadays). Moreover, sense experience is individual, fluid and dependent on a variety of external factors. Hence, knowledge based on sensation is at best probabilistic and doubtful, at worst misleading and erroneous. Descartes, within the context of the new sciences and their pursuit of universal, immutable laws, considered only the latter as knowledge, that is knowledge was universal and immutable. That being so, relative and variable information, which is what the senses generate, cannot amount to it. Knowledge, thus, was to be absolute and certain and Descartes sought absolute certainty (Quinton 2010). In order to achieve it, he proposed the method of absolute doubt (leading eventually to *cogito ergo sum*). In this sense, not only there is a differentiation between the mind and the body, but there is a primacy of the mind over the body.

The corollary of rationalism is the preference for deduction. Because only inferences made by the mind can ever be certain and amount to knowledge, absolute mechanistic principles can only be generated by the mind. Therefore, Descartes favored the elaboration of explanations deduced from universal laws, which are themselves derived from other mind-generated inner concepts. Philosophy, therefore, became entrusted with the task of providing

those foundations, as «basic beliefs», for the natural sciences (Bacon 2012). Accordingly, truth is pursued and reached by thought. Only those ideas that are coherently deduced from other basic and certain ideas can be certain as well and therefore regarded as knowledge. This approach is roughly represented contemporarily by coherence theories of truth.

This position was influentially challenged most notably by empiricism. Although not completely opposed to some Cartesian insights, seeking to further scientific progress, empiricism arrives at contrasting conclusions. As in the case above, this standpoint can be analyzed in terms of its ontological and epistemological implications. Regarding the former, there is not much change from the Cartesian assumptions. In fact, its dualism is inherited. Thus, the mind and the world are differentiated from one another and remain separated. However, the separation is interpreted differently deriving other implications for the production of knowledge. Therefore, epistemologically, the direction taken by empiricism is different. Empiricism privileges sense experience as a route to certainty. The mind is not assumed to be a thinking entity but a blank slate on which external objects imprint their characteristics through the senses. Against rationalism's goal to restrict knowledge to thought only, empiricism favors knowledge that can be observed and therefore can be checked. That is, it advances evidence-based knowledge that is grounded on actual experience.

As such, and contrary to rationalism, empiricism favors induction. Given that knowledge only comes from sensory perception, explanations of current events and predictions of future ones can only be inducted from specific past experiences or instances of those events. Although it is acknowledged that expecting the future to resemble the past simply because of iteration of previous events is not logical, it is also recognized that human beings, relying on such reasoning, have and do further both common and scientific undertakings (Dicker 1998). Given that for empiricism knowledge is based on observable (*i.e.*, sense-perceptible) evidence of the world, only those claims that reflect or mirror the world or reality as it is can be considered as truth. Hence, roughly contemporary correspondence theories of truth illustrate this philosophical tradition.

Hildebrand (2008, p. 43) summarizes the discussion so far quite well when he states:

> Empiricism maintains that an objective, external world writes its story elements in our minds; when we can express that story in an order that corresponds to the world, there is objective knowledge. Rationalism argues that knowledge is not an inner-outer correspondence but a coherence of inner concepts; this harmony is grasped not by the senses but by the introspective light of consciousness shining on its own conceptual landscape.

Despite the tensions between rationalism and empiricism, as mentioned at the outset of this section, they find coexistence in positivism. This is illustrated in the work of the empiricist David Hume. For him, experience is understood as sense perception as well as introspective awareness of one's own state of mind (Dicker 1998). In this light, the scope, the limits and the justification of all knowledge is attributed to experience (Rosenberg 1993). Consequently, the rationalist primacy of the mind is abandoned but its contribution to knowledge production is acknowledged as complementary to knowledge generated by sense perception.

This introduces the division of knowable statements, which, as is argued below, reflects the genealogy positivism. Hume (in Fogelin 1993, p. 96) states that «a]ll the objects of human reason or enquiry may naturally be divided into two kinds, to wit, *Relations of Ideas*, and *Matters of Fact.* Of the first kind are the sciences of Geometry, Algebra, and Arithmetic and, in short, every affirmation, which is either intuitively or demonstratively certain». Apropos the second kind, he posits «[m]atters of fact, which are the second objects of human reason, are not ascertained in the same manner; nor is our evidence of their truth, however great, of a like nature with the foregoing. The contrary of every matter of fact is still possible; because it can never imply a contradiction, and is conceived by the mind with the same facility and distinctness, as if ever so conformable to reality» (Hume in Fogelin 1993, p. 96).

Positivism has not only reigned over the natural sciences but has dominated the social sciences as well. Because of the success displayed by the natural sciences in explaining and predicting phenomena in the natural world, their insights and method were adopted to study the social world (Noor 2008). Positivism in the social sciences is usefully exemplified by August Comte who, participating in the project of ridding philosophy of metaphysics (Kaboub 2008), proposed also a positivist sociology as the science to study society. In his *System of Positive Polity* (2012), he establishes a unity in science by dint of what he terms a «theory of development». Within this framework, he establishes a continuity among the sciences the order of which depends negatively on the generality of the phenomena under study or, what is the same, positively on their complexity, to wit, mathematics, astronomy, physics, chemistry, biology, and sociology. Each builds and depends on the previous one. Hence, in *A General View of Positivism* (2009), he asserts: «Social Philosophy, therefore, ought on every ground to be preceded by Natural Philosophy in the ordinary sense of the word» (Comte 2009, p. 44). Hence, the insights and methods of the natural sciences were to be used in the social sciences. Importantly, the goal was not only to explain and predict society but to make it better. In other words, the goal was not solely scientific progress but social progress. As he states, «the object

of philosophy is to present a systematic view of human life, as a basis for modifying its imperfections» (Comte 2009, p. 8).

The tradition described above is presumably best reflected in more contemporary debates by the Vienna Circle and its logical positivism.[1] The endeavor, with the same aim of rationalism and empiricism before it, was to propose solid philosophical foundations on which science can build on. In order to do that, a closer resemblance between the natural sciences and philosophy itself was attempted. Put simply, the strategy was to make philosophy more scientific (Waugh & Ariew 2008). Hence, knowledge claims, the proposal suggested, were to be assessed in terms of their meaningfulness. This entailed an evaluation of their cognitive content. Only statements considered cognitively significant were deemed adequate for scientific inquiry (Uebel 2014). Further, these statements were only of two kinds: analytic or synthetic (Caldwell 1994).

This classification is clearly redolent of Hume's. Analytic statements were tautologies, self-contradictions or any statement that is true because of their meaning (Putnam 2002). «All bachelors are single men» is an example, often cited, of this sort of statement. This phrase is true in and of itself because of the meaning of the words that constitute it. It requires nothing external to itself to assess its cognitive content and significance. As such, *a priori* reasoning suffices to justify them (Uebel 2014). Synthetic statements, conversely, required external resources to assess their cognitive significance. These were factual statements that could be confirmed by empirical evidence (Caldwell 1994). Any statement that refers to the world could exemplify this type of proposition. For instance, «all swans are white» can be regarded as a synthetic statement in need of verification before it can be regarded as a knowledge claim. Therefore, these statements were justifiably only *a posteriori* (Uebel 2014).

Logical positivism's differentiation between analytic and synthetic propositions within the same epistemology illustrates positivism's internal tensions. While analytic statements show rationalism's influence, synthetic statements reflect empiricism's dominance. Originally conflicting positions in the philosophy of science were joined in positivism. This combination arguably answered to practical reasons. Whereas it was rather straight forward to support the most successful natural sciences such as physics and chemistry, which based their knowledge claims on evidence, the case for formal sciences such as mathematics, which based their

[1] Some of the more significant members over the years included Rudolf Carnap, Herbert Feigl, Philipp Frank, Kurt Gödel, Hans Hahn, Karl Menger (the economist's son), Otto Neurath, and Friedrich Waismann (Caldwell 1994, p. 11).

knowledge claims on the logic derived from the meaning of their constitutive words, was less so. Therefore, acknowledgement of analytic statements was important to «[…] renew empiricism by freeing it from the impossible task of grounding logical and mathematical knowledge» (Uebel 2014, p. 90).

The analytic-synthetic division of propositions as exhausting what is scientifically knowable underscores logical positivism's quest for truth in objectivity. Much like the two traditions on which it builds, logical positivism equated (scientific) knowledge with certainty. As such, it sought to discover immutable, universal, absolute truths. This project entailed eliminating from scientific consideration all of that which may be conjunctural, flexible, relative, individual. The differentiation between objectivity and subjectivity encapsulates this goal. Subjectivity refers to the quality of those statements composed of fluid elements. Subjective propositions were considered non-analytic, non-synthetic because they are laden with value (whether ethical, aesthetical or other). As such, their meaning depends on different factors related to the context and the individual involved in an event of interest. Hence, the differentiation is also presented as the fact/value dichotomy.

Objectivity, in turn, refers to the stated aim of generating unchanging knowledge. To do this, the locus of attention was placed on facts, understood as events absent all value. This was possible because of the aforementioned ontological and epistemological assumptions underpinning positivism. To recall, the mind is separated and independent from the world and, at the same time, that mind-independent world can be known as it is. Since the world is objective and it can be known as it is, objectivity is possible. Only knowledge that reflects or mirrors that world, that reality, is certain and true. Therefore, only that knowledge is reliable to further science with confidence.

3

Positivist Public Policy

Being that economics is most influential discipline in public policy (Thaler 2015), it seems like an appropriate point of departure to attest the influence of positivism in the social sciences. This is perhaps best summarized by Milton Friedman (1953) in his *The Methodology of Positive Economics*, which initiates by asserting that the enterprise is objectivity, as he puts it: «[P]ositive economics is in principle independent of any particular ethical position or normative judgements» (Friedman 1953, p. 4). He argues further in terms of what that entails

in terms of goals, merging thereby the elements discussed above, and it is worth quoting him at length:

> The ultimate goal of a positive science is the development of a «theory» or «hypothesis» that yields valid and meaningful (*i.e.*, not truistic) predictions about phenomena not yet observed. Such a theory is, in general, a complex intermixture of two elements. In part, it is a «language» designed to promote «systematic and organized methods of reasoning». In part, it is a body of substantive hypotheses designed to abstract essential features of complex reality […]. Viewed as a language, theory has no substantive content; it is a set of tautologies. Its function is to serve as a filing system for organizing empirical material and facilitating our understanding of it; and the criteria by which it is to be judged are those appropriate to a filing system (Friedman 1953, p. 7).

Further, he then elaborates:

> Viewed as a body of substantive hypotheses, theory is to be judged by its predictive power for the class of phenomena which it is intended to «explain». Only factual evidence can show whether it is «right» or «wrong» or, better, tentatively «accepted» as valid or «rejected». As I shall argue at greater length below, the only relevant test of the validity of a hypothesis is comparison of its predictions with experience. The hypothesis is rejected if its predictions are contradicted («frequently» or more often than predictions from an alternative hypothesis); it is accepted if its predictions are not contradicted; great confidence is attached to it if it has survived many opportunities for contradiction. Factual evidence can never «prove» a hypothesis; it can only fail to disprove it, which is what we generally mean when we say, somewhat inexactly, that the hypothesis has been «confirmed» by experience (Friedman 1953, pp. 8-9).

As can be appreciated, Friedman subscribes quite clearly to the characteristics of positivism described above. First, he starts by associating a positivist science with objectivity; that is, the separation of facts from values and making it science's concern to care only for the former. Certainly, this is argued in the light of the ontological assumption that the world is independent of the mind and can be know as it is. Second, its definition of theory includes the analytic-synthetic distinction. On the one hand, the element of language as a set of tautologies refers analytic statements; on the other, substantive hypothesis to be confirmed by experience denotes synthetic ones.

In this light, theories are explanatory propositions that are empirically confirmed and whose value lies on their predictive power. This approach to inquiry has been usefully illustrated by Lipsey (in Hollis 1994), who presents the process by which a positivist study can (ought to) be carried out (see Figure 1).

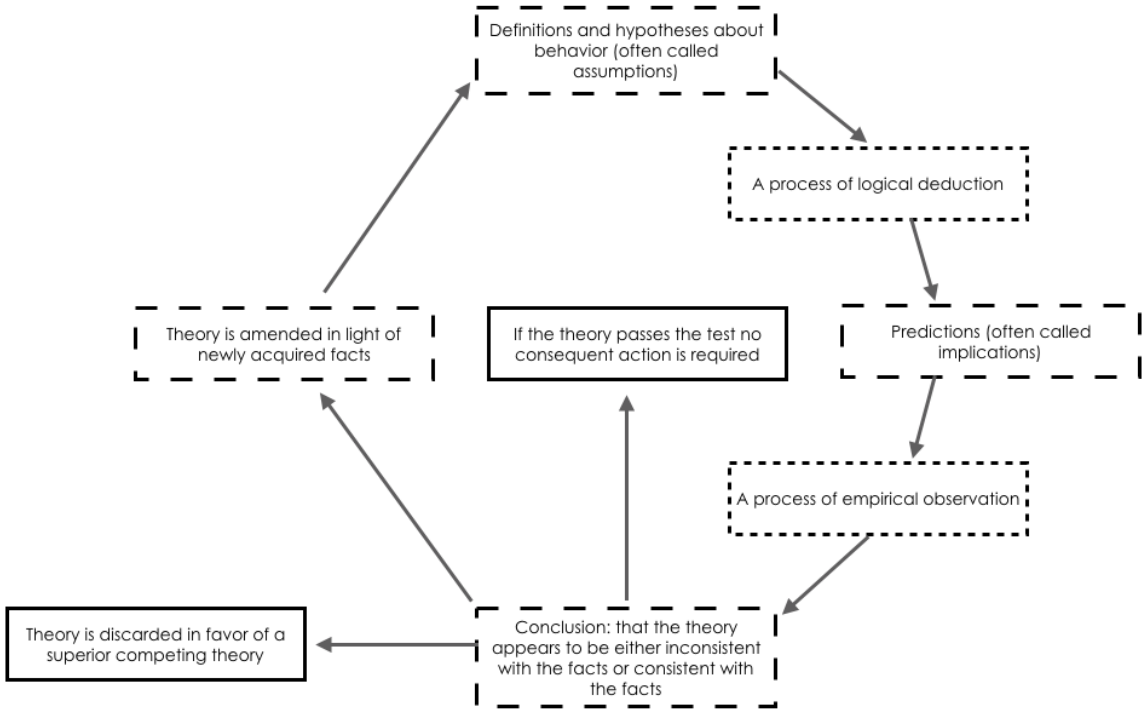

Figure 1

Illustration of the process of positivist inquiry

Source: based on Hollis (1994).

The discussion regarding theory is meaningful for public policy because policies are based on some causal intuition or theory. Policies address a given issue identified, as wanting attention (whether it is problematic as in some undesirable behavior in need of correction or beneficial, as in the case of a desirable behavior in need of reinforcement), by establishing the causes for it and proposing the means to achieve the desired end. As argued by Perret (1997 in Varone, Rihoux & Marx 2006, p. 219), «a policy can be interpreted as a theoretical construction, in the sense that it implies an *a priori* representation of the measures implemented, of the actors' behaviour, of the sequence of measures undertaken and of the effects produced on society».

Those theories are built by dint of Lipsey's process, which describes what positivism regards as systematic research. Its results are considered «evidence» (Head 2008). In public

policy, this is relevant because particularly, since the turn of the century, there has been a growing push towards «evidence-based» policy. This is partly due to public policy's *raison d'être,* namely, social improvement. In observance of that commitment, academics and practitioners have stressed the importance of carrying out research useful not only to understand society but to make it better (Solesbury 2002), on the one hand, and the necessity of more effective and efficient policies on the other (Head 2008). Evidence-based policy constitutes a means towards that twofold ends.

By basing policy on accurate, precise and reliable findings of scientific inquiry, *i.e.,* true knowledge, the intention is to guarantee the generation of expected results. «Conventionally, we assume that reliable knowledge provides a sound basis for effective action; it is explanatory and theoretical, providing an understanding of how policies work» (Sanderson 2002, p. 3). Consequently, the interest of policy has been placed on scrutinizing «what works». In the case of positivism, this is akin to the generation of theories that are empirically confirmed and, as such, predict the phenomena with which they are concerned. They can only do so because they are objective, *i.e.,* because they account for the processes of the world as it is.

In that endeavor, positivism builds on the insights and methods of the natural sciences. Bryman (1984, p. 77) discusses the influence of positivism in public policy analysis and depicts its influence at the level of methods with the example of a positivist use of quantitative methods (of data collection and analysis) by stating that

> the social survey is typically seen as the preferred instrument of research within this [positivism] tradition because it can apparently be readily adapted to such concerns. Through questionnaire items concepts can be operationalized; objectivity is maintained by the distance between observer and observed along with the possibility of external checks upon one's questionnaire; replication can be carried out by employing the same research instrument in another context; and the problem of causality has been eased by the emergence of path analysis and related regression techniques to which surveys are well suited.

Interestingly, however, this rather straight forward approach has encountered some trouble. Friedman (1953, p. 34) himself seems to disregard some of the firm positions he establishes in his seminal text when he asserts:

> If a class of «economic phenomena» appears varied and complex, it is, we must suppose, because we have no adequate theory to explain them. Known facts cannot be set on one side; a theory to apply «closely to reality», on the other. A theory is the way we perceive «facts», and we cannot perceive «facts» without a theory.

This statement suggests, at least, one important implication: the positivist ontological assumption is difficult to soundly maintain even for an adamant positivist like Friedman. The world cannot not be known as it is. What can be known depends on the theoretical lens that is being used. The corollary seems to be that science arguably cannot be objective, as the researcher approaches the world with theories that make it intelligible, at least intelligible enough to allow them to distinguish fact from non-fact. Presumably, therefore, different theories will have different facts making it possible for there to be discrepancies and contradictions among different theories tackling the same phenomena. The positivist, thus, in the case of competing theories that explain a given event equally well, an equal number of times, will be forced to regard them as equally valid or, significantly, equally true. Certainly, this applies also to other degrees of «trueness». At the extreme, even in absence of alternative theories, if the only one available explains less than 100 % of all cases, that theory is only partially true. It is only true to the extent it can explain the event; that is, it is only true a given per cent of the time. The quest for truth, then, as an absolute seems to be necessarily threatened.

The implication for public policy is consequential. It puts into question the argument in favor of «evidence-based policies». For all the merit that such proposal has at first glance, securing objectivity is certainly not one of them. If there are no facts without theories because theories, as Friedman asserts, determine what counts as facts, then evidence depends on theories as well. A relevant example in current debates is provided by feminist public policy. It would be incorrect (not only politically) to argue that policies influenced by feminist thought are likely to be the same as those otherwise inspired. «Evidence, whether old or new, never speaks for itself» (Pawson 2002, p. 157). Theories determine what the facts are and what evidence is. As such, they make an event intelligible from a given perspective and this has practical consequences in public policy. Feminist theories highlight role of gender in society. Such framework's importance can be attested at different stages in the policy cycle. In formulation, for instance, policies that incorporate feminist insights are likely to take into consideration gender in the identification of the problem. Similarly, regardless of a policy's influences, employing a feminist perspective in policy evaluation can cast light on the effects of a policy in terms of gender. In both cases, these insights, and the facts and evidence that

derive from them, would have been obscured otherwise. The same, of course, applies to other relevant foci such as class, ethnicity, the environment, etc., and even more so if some of them are combined.

The discussion so far has argued that positivism, as a philosophical tradition searching for certainty, is the product of the combination of insights from different sources. Further, the coexistence of some of its ideas is not tension-free and this tension is not alleviated by positivist means. In light of the above, severe criticism has been raised to this approach to scientific inquiry. Suppe (1977, p. 632) is emphatic asserting that «[…] the positivistic program for philosophy of science has been repudiated by contemporary philosophy of science».

Nonetheless, positivism has proven to be pervasive within social science. Particularly, economics seems to be a devout follower. As Caldwell (1994, p. 4) states, «[f]ew economists keep up with developments in the philosophy of science, and as such it is understandable that many may still labor under the illusion that economics is, or can be, a positivist discipline». Given the influence that economics has on public policy, the same arguably applies to the latter.

4

Pragmatism

Pragmatism is a philosophical tradition that offers an alternative to positivism. Its founders and main exponents have been, *inter alia,* Charles Sanders Peirce, William James, and John Dewey. More contemporarily, it has been argued that figures such as Donald Davidson, Richard Rorty, Cornel West, and Hilary Putnam carry the pragmatist banner to the present (see, *e.g.*, Bacon 2012). Originated in the United States at the end of the XIX century, and against the backdrop of absolutist thought and its ominous consequences, the initial pragmatists sought to provide a philosophical argument against such ideas. In that effort, they resorted to a naturalist perspective that recognizes the dynamic instead of static character of nature as its main feature. In other words, pragmatism is a philosophy that abandons the quest for constants. If it were to be put in terms of constants, however, it would arguably regard change as the only constant.

To facilitate this discussion, perhaps the best the way would be to tackle ontological and then epistemological implications of pragmatism, thereby establishing a parallel with rationalism and empiricism above. However, this is rather challenging, for it is at this very level that pragmatism's contribution to the philosophy of science sets out. Differentiating ontology from epistemology and giving them separate treatment only makes sense because of

the separation between the mind and the world presented by mind-world dualism. Building on this assumption, ontology dictates what exists (a mind independent world that can be known as it is) and epistemology suggests how to get to know what exists. Consequently, mind-world dualism not only separates the ontology from epistemology but it gives primacy to the former (Jackson 2011). As such, it becomes epistemology's task to bridge the gap between the mind and the world.

Pragmatism challenges this division. Its departure point is «acting» (Kratochwil 2011), neither «things» as in empiricism nor «reason» as in rationalism. For this perspective, action is an engagement between an organism and its environment. This entails a recognition that there is no separation between them in nature but a continuity. This continuity encompasses all organisms and everything in the environment. From the acts of micro-cell organisms to the behavior of most intelligent animals, actions either maintain a certain state of affairs or change it. Whether a *statu quo* or a new situation, both need action to occur. Hence, all action is constitutive of the world. Human action is no different; human beings are part of that world by their very existence and they constitute it by their actions. Scientific endeavors are, of course, also included as world-constitutive actions. Therefore, according to pragmatism, the mind is part of the world and separating them is a false start that leads to unfruitful questions and projects.

If mind-world dualism is abandoned, what is left of ontology and epistemology? In the light of the discussion above, it becomes clear that pragmatism adheres to mind-world monism, the stance that there is no separation between the two. For ontology, this entails that the world is not «out there»; it is not an external reality independent of the mind that can be known as it is. For epistemology, it means, at the very least, that the project of bridging the gap between the mind and the world becomes non-sensical. Thus, the pursuit of truth, certainty and objectivity becomes pointless and is also abandoned.

This does not amount to an abandonment of the world, a rejection of realism and a fall into idealism. For pragmatism, the world exists but, being part of it, human beings only know it through their practices. That means that humans have no direct access to the world and knowledge of the world is necessarily from a particular point of view. The latter is laden with the observer's theories, ideologies, interests and imagination when encountering that world (Khalil 2004). Therefore, there is no such thing as a purely empirical or value-free phenomenon. Consequently, there is no real dichotomy between analytic and synthetic statements (Quine 1951), and neither is there one between facts and values (Putnam 2002).

The above has bearing for scientific research as pragmatism moves beyond the view of inquiry as a mind passively receiving knowledge from a world that is unveiled to it, as if truth corresponds to reality. Dewey called this «spectator theory of knowledge» (Bacon 2012). Instead, it opts for a naturalistic approach, influenced by Darwin, in which it sees the generation of knowledge as the process of *transaction* between the human organism and its environment (Dewey 1985). Therefore, it regards inquiry as the process by which humans engage with their environment, through manipulation, so as to solve an obstacle until they are able to further human action again. In this sense, it seeks to take seriously actual research practices and human cognition. The aspiration of pragmatism has been described as «[…] a philosophy that is at once naturalist and humanist, a philosophy that fully respects the modern scientific worldview without thereby losing contact with the world of human experience» (Talisse & Aikin 2011, p. 4).

As mentioned above, it is this relationship between humans and their environment that is considered action. In his contribution, Dewey emphasized the concept of «transaction». He dismissed the prevailing notions of self-action and inter-action, which entailed, respectively, that things acted by their own powers, and that one thing is balanced against another thing as in causal relations (Smith 2004). The focus in both notions is on the units that compose them. Transaction, in turn, entails «[…] that systems deal with aspects and phases of action without any attribution to elements or entities supposedly detachable from the system that includes them» (Smith 2004, p. 137). Therefore, the organism-environment transaction constitutes one indivisible unit.[2]

From this perspective, inquiry is action. Humans gain knowledge by transacting with the environment, an environment that they partly constitute. Knowing is acting with interests, beliefs and imagination. As such, the latter are as intrinsic as empirical evidence is to statements about «reality», which, in turn, do not solely reflect «reality» but shape it according to the imagination and beliefs that are warranted (Khalil 2004). Thus, the process of knowing helps constitute what is known. Furthermore, the preferences of the inquirer are transformed in trying to satisfy them (Khalil 2004). Therefore, in this process the knower changes as well.

Similarly, in Dewey's pragmatism, action is inquiry. This means that it is a transaction between the knower, agent with beliefs, imagination, interests and preferences, and the known,

[2] In this unit, «what is called environment is that in which the conditions called physical are enmeshed in cultural conditions and thereby are more than "physical" in its technical sense» (Dewey & Bentley in Rosenthal 2004, p. 160).

the object, environment or incentive. On the one hand, the environment helps bringing about an image or a belief in the knower's mind. On the other, the knower interprets the environment in light of their intentions and past experiences. That is, the known cannot be defined independently of the knower, and neither can the belief be defined independently of the environment. Therefore, action as inquiry can be regarded as the synthesis of the self-actionist (most prevalent in anthropological and sociological studies) and the inter-actionist view (dominant in economistic approaches) (Khalil 2004).

Importantly, inquiry is an «experimental transaction» (Dewey in Smith 2004, p. 137). In this sense, pragmatism takes the preliminary character of scientific knowledge seriously. Pragmatists abandon the idea of universal laws in the social world. Dewey (1985, p. 163) states that «[…] conceptions, theories and systems of thought […] are tools. As in the case of all tools, their value resides not in themselves but in their capacity to work shown in the consequences of their use». Once these tools can no longer fulfill their purpose, new ones are required. Thus, any «knowledge» (or what positivism would call «truth») established via pragmatist science settles a controversial or complex issue, or answers a specific question, for the time being, until something appears to disturb the settlement, forcing inquiry to start anew (Cochran 2002). As a matter of fact, Dewey did not endorse the use of the term «truth» due to is positivist connotation, although he used it under this caveat. Instead, he favored «warranted assertibility» (Quinton 2010) to describe the state in which a hypothesis succeeds in turning an indeterminate situation (one in which there is an issue to be resolved, which prompts inquiry) into a determinate one[3] (Bacon 2012). This fundamental character of knowledge is what defines pragmatism (and classical pragmatists) as fallibilist.[4] Furthermore, that something cannot be anything. Dewey (2008) emphasizes that questioning presumptive knowledge requires reasons. Although the confidence placed on knowledge is provisional, such objects are considered settled until there is reason to doubt them.

As such, pragmatism is a philosophy that is concerned with action and practical consequences. It places the locus of inquiry on addressing actual problems creatively and accepting the incomplete nature of knowledge. This is well illustrated in pragmatism's theory

[3] Indeed, Dewey was even reluctant to use the word «knowledge» as he would not call that anything provisional but considered knowledge as the final goal of inquiry (see Smith 2004).

[4] «Charles Peirce declared himself a fallibilist. John Dewey elaborated on the hopelessness of the quest for certainty. And although William James acknowledged that we can have knowledge we can never know for certain when we have it» (Levi 2004, p. 240).

of meaning. The pragmatic maxim stated by Peirce (1905, p. 171, emphasis in the original) stated: «Consider what effects that might conceivably have practical bearings you conceive the object of your conception to have. Then your conception of those effects is the WHOLE of your conception of the object».

Later, this view would be extended, in an anti-positivist manner, by William James (1904, pp. 673-674) who asserts:

> To attain perfect clearness in our thoughts of an object, then, we need only consider what conceivable effects of a practical kind the object may involve – what sensations we are to expect from it, and what reactions we must prepare. Our conception of these effects, whether immediate or remote, is then for us the whole of our conception of the object, so far as that conception has positive significance at all.

5
Pragmatistic Public Policy

In the social sciences, a pragmatist approach offers an alternative to positivism to carry out research. While positivism has sought to study the social world with some assumptions believed to be valid in the natural world to achieve certainty, leading it eventually to making human experience fit its pre-established methods, pragmatism seeks to account for human experience and rid science of the anxiety of the pursuit of truth, thereby making the methods fit human experience. As discussed above, positivism has defined and set up a structure and procedure of what constitutes systematic research. Inquiry seeking to generate scientific knowledge ought to abide by those rules. This means that the purposes of research ought to fit within the model and methods designated as adequate. In other words, for positivism function follows form. This seems akin to putting the cart before the horse. Conversely, in pragmatism, the shape that inquiry takes depends on its purpose. It is the aims and motivations of research that suggest the adequate methods and design. That is, in pragmatistic inquiry form follows function.

Pragmatism's focus on actions and practical consequences guides what is considered as warranting assertion. Since inquiry is prompted whenever action is somehow inhibited, then that which overcomes the hindrance, thereby allowing action to continue, warrants assertion. This settles the problem temporarily until there is reason to dislodge that settlement. If action becomes thwarted in the future, this would call for questioning that settlement and proposing

a new one, which is to be assessed with the same criteria. Presumably, it is because of this that in conventional parlance the term «pragmatism» is associated with «a concern with success in practical terms» and «pragmatic» is related to «what works» (Head 2008). Nevertheless, pragmatism does not mean relativism. «What works» is not the same as «anything goes». It is worth stressing that action ensues as a naturalistic process, one that is necessarily contextual and historical. In pragmatist scientific research, this entails that research ought to consider past and current debates, observe the standards placed within the discipline and respective epistemic communities for which it is relevant (Friedrichs & Kratochwil 2009), and contribute creatively on those bases.

Public policy has much in common with pragmatism. The affinity is, at least, twofold: the interest in practical consequences and in effective results. These aspects are, of course, intertwined. Although public policy ultimately answers to certain philosophical assumptions (consider, for instance, the principles about human beings and their rationality behind neoliberal or protectionist policies in international trade, neoclassical or Keynesian policies regarding public expenditure in times of recession and more currently, and broadly, traditional or behavioral economics theories inspiring policies in a wide range of areas), its main focus is on delivering some expected result. In fact, they are not often evaluated in terms on their internal cohesion but in terms of their consequences.[5] Since policies are based on some causal theory, that assessment in no small measure reflects Friedman's (1953) above mentioned exclusive focus on prediction of phenomena not yet observable (did the policy accomplish or achieve what it was supposed to?). Hence, public policy evaluation is mostly consequentialist and the criterion on which is based is effectiveness.

It is precisely in their effectiveness that public policies could potentially benefit from a pragmatist approach. As mentioned above, there is an increasing plea for policy making to be based on evidence in order to secure that their actual results match the expected ones. This seems like a reasonable request until it is framed within the positivist project and its implausible demand for «truth». Under pragmatism, however, this request becomes realizable. Rather than certitude, evidence is considered as that which enables action to be furthered; that is, that which warrants assertion. Moreover, because human action is a transaction between the human organism and the environment, what turns an indeterminate situation into a determinate one is

[5] This is not to say that this is the only sort of policy evaluation. There are many different kinds that focus on different aspects and phases of the policy cycle. However, assessment of results related to expectations is certainly the most common.

likely to differ depending on factors related to characteristics of both the organism and the environment. The more heterogeneity they show, the more likely it is that different hypotheses overcome the hindrance to action. That is, instead of a one-size-fits-all solution, there may be many warranted assertions for the same problem and that deliver similar results.

So far so pragmatistic, at least in terms of action being inquiry, but for pragmatism, inquiry is action as well. That means that as complex as the account of evidence provided above is, it is still not pragmatistic enough. Since evidence cannot speak for itself, it is necessary to discuss also the inquirer, who produces the evidence. She is also an organism in an environment, in the midst of a transaction. What the problem is, and if or not it has been overcome, is not given, for there is no objective world against which such assessment can be made; instead it, depends on the lenses (theories, customs, and ideologies) used by the inquirer. Assuming that there is clarity in terms of the perspective(s) used when producing the evidence, and that they were consistently and adequately used across all cases, the description made above obtains. Put simply, the same outcome is likely to be delivered by different variations of a policy depending on the features of those affected by the policy as well as the context in which the policy is implemented.

Consequently, a pragmatistic public policy is likely to be more effective than the conventional one because of its attention to context diversity and human plurality. How can these aspects be accounted for in practice will depend on the purposes of inquiry and other related factors such as the theoretical framework employed. Pragmatism does not prescribe a specific method. In fact, it privileges creativity and variety in the use of methods (Kratochwil 2011). Dewey, notably, took issue with the one-size-fits all approach to inquiry established by the positivist «scientific method». Indeed, he stressed that «there is no kind of inquiry which has a monopoly of the honorable title of knowledge» (Dewey in Hands 2004, p. 262). As such, there is no privileging of a particular approach or method over other. The method's pertinence cannot be determined *a priori* but must be selected according to the purpose of research. Justification of design, strategy and the specific techniques used are made in terms of its goals. This allows scientific inquiry to elude unproductive debates such as the primacy of quantitative methods over qualitative and harness their powers whenever they are required by the goals of research. Consequently, it is perhaps unsurprising that mixed methods research has been argued as supported by pragmatism (see Johnson & Onwuegbuzie 2004, Johnson *et al.* 2007, Morgan 2007, Felizer 2010, Creswell 2015) and other innovative approaches that blur the lines between the split method such as fuzzy set Qualitative Comparative Analysis (see Garcés 2016b) as well.

In this context, how does pragmatism suggest the pertinence of design, strategy and method can be assessed and by whom? Although pragmatism is certainly a consequentialist philosophy, it does not advocate an «anything goes» attitude to inquiry and the production of evidence for public policy. After all, evidence produced in a questionable manner may yield expected results by coincidence or chance. This would hardly be acceptable either scientifically or practically. In this case, as above, warranted assertibility applies. The research theories, methods and techniques used in producing evidence ought to have proven their success in turning indeterminate situations into determinate ones. Different tools and instruments may be required in order to adequately tackle distinct questions and challenges. Their ability to do so is determined by their results. However, because they cannot speak for themselves, it is up to the different relevant epistemic communities to assess those results. The burden of the proof falls therefore on the inquirers. On the one hand, those producing evidence ought to be transparent regarding all the choices made and the justification for each. Whenever relevant this ought to include also even their personal characteristics, acknowledging how they affect data collection and analysis. The evidence ought to be evaluated under that light. On the other hand, those assessing the evidence ought to be transparent about all their biases and how they may affect their work. Their evaluation ought to be read and interpreted under that light. In this way, producing and using evidence becomes a rigorous activity characterized by clarity and explicitness. By so being, evidence can answer policy relevant questions: what works, when and for whom? This would adhere to what Dewey meant by the «scientific method», that is, «[…] the logic shared by the structure of all well conducted inquiries» (Levi 2004, p. 246).

6
Conclusions

Public policy is not only an academic exercise; it is intrinsically a practical one. Public policy is concerned with knowledge generation to the extent that it is useful to inform its implementation in order to maintain or change a state of affairs. The current plea for evidence-based policies brings information and the tools used to nurture policy making to the fore. Regardless of its goals, however, the importance of public policy can hardly be overstated as people's lives are affected by it directly or indirectly, in the short or in the long term. Certainly, this explains to a great extent why there is a growing interest in improving the evidence that nurtures policies. As urgent and necessary as that endeavor is, if it is going to fulfil its purpose of enhance policy effectiveness, it is just as important to engage in it critically. In that effort,

this essay provides a theoretical discussion, which is intrinsically as well as instrumentally relevant. It is intrinsically important because shedding light on the philosophy of science, the principles governing the out generation of knowledge, undergirding policy making is valuable in and of itself. It is instrumentally significant because, being logically prior to any discussion concerning methods and empirics, it provides the groundwork on which such elaborations can take place. To address both, in this paper it is proposed pragmatism and a pragmatistic public policy.

Pragmatism constitutes an alternative to the positivist orthodoxy as a philosophy of science on which to conduct social inquiry and policy relevant evidence. Pragmatism is guided by actual human experience and proposes a naturalistic approach that is focused on action and concerned with practical consequences. Put simply, while in positivism function follows form, in pragmatism form follows function. Consequently, for pragmatism, the quest for certainty or absolute, immutable and universal laws, as those believed to be found in nature, is an unfruitful exercise. Therefore, public policy based on evidence purporting to be just that is unlikely to deliver on its promises.

In lieu of a one-size-fits-all solution based on assumptions of constancy and homogeneity, policy making could embrace a pragmatist perspective that recognizes that the diversity of contexts and plurality of human experience can generate variety in policy outcomes. Further, since all action is constitutive of the world and the world is known from a specific point of view, the actions of producing policy relevant evidence and assessing its pertinence makes up the world as well and are necessarily prejudiced perspectives. The implication for scientific knowledge generation in general and policy relevant evidence particularly are straightforward: explicit and transparent exposition and justification of all choices made, which entails all factors that may affect the findings, including when relevant the personal characteristics of the inquirer. This facilitates an adequate interpretation of the evidence, putting more reasonable boundaries on its breadth and depth, thereby increasing the effectiveness of policies inspired by it.

The argument in favor of pragmatism has been elaborated in contrast to the dominant approach; but, of course, this does not mean that there are no other alternatives. In fact, there is a relatively small but growing literature highlighting positivism's limitations and suggesting other options. Despite the merits of including those approaches, space constraints forbid, as they usually do, engaging in such an interesting discussion. Nonetheless, the text above has sought to hint to some connections between pragmatism and some of them, and some

advantages of the former over the latter. In this sense, it might be helpful to address briefly the main alternative to positivism, to be found at its antipode, namely, interpretivism.

At the obvious risk of oversimplification, philosophically, it could be summarized by stating that it adheres to mind-world monism, rejecting thereby the idea of an objective world (Jackson 2011) and even that of reality itself. But it reaches the conclusion that, because of this, all that can be known are subjectivities or perceptions (Moses & Knutsen 2012, Hollis 1994). As a result, there is rejection of explanation and prediction, seeking instead understanding the meanings in each case or situation as virtually unique (Garcés forthcoming). Therefore, it focuses on language and its use. This is the reason why this approach favors qualitative methods, suggesting, as in the case of positivism, a predetermined design to produce knowledge. Further, in its most extreme versions, it gives up the world and it is considered that social reality is only linguistically constructed, regarding the natural as well as the social sciences as governed by discourses and power (Garcés forthcoming). Consequently, evidence would constitute another discourse with which power is being exerted by some over others, and thereby a tool which constitutes the world. Because of this, self-reflection is required from knowledge-producers or evidence-generators.

Under this perspective, pragmatism seems to share some characteristics, but also overcomes some limitations of interpretivism. As mentioned above, in pragmatism it is recognized that the mind is a part of the world, that all action performed in the world (including those by the mind) is constitutive of the it, and that, thus, the world is always known from a prejudiced viewpoint. But, importantly, it recognizes the existence of that world. Accordingly, it acknowledges the importance of self-awareness and the explicitness of biases in the generation of evidence. Nevertheless, it does not fall into the shortcoming of limiting inquiry to a predetermined shape associated with a specific technique, *i.e.*, qualitative methods, since this, as in the case of positivism, is subordinating function to form. Instead, as stressed earlier, pragmatism is not attached to any one approach and, to the contrary, lets the purpose of inquiry guide the choice of theories, designs and techniques, favoring innovation and creativity. Exploring in depth this line of argument may be a fruitful avenue for further research.

Similarly, this discussion has other implications that could not be addressed justly in this paper. More broadly, it overlaps with discussions regarding scientific ethnocentrism, colonialism and modernity. More narrowly, it touches directly upon more tangible issues such as development cooperation, foreign aid evaluation, and the assessment of internationally financed programs. Certainly, elaborating on them in any detail goes beyond the purposes of this paper, but they constitute important research paths and ones that could be tackled

rewardingly in a pragmatistic fashion. Perhaps this essay leaves fertile grounds for such undertaking.

The argument put forward has focused on the dominant approach, positivism, and a final thought in practical terms seems warranted. Uncertainty is a hard pill to swallow in public policy. Policy-makers and politicians build their platforms on promises, on which they are expected to deliver by their constituents. Therefore, they need confidence in their explanations and certainty in their prediction; they need «the truth». After all, public opinion has little patient for or understanding of nuances. Perhaps, this has also contributed to the steadfast grip that public policy still has on positivism. Again, this should not discourage pragmatist inquiry. In fact, it should convey a sense of urgency in its practice and transmission. The expectation is that if pragmatism, as well as other approaches to inquiry, can be shared, employed and taught at different levels, that need for certitude and surety would be alleviated and perhaps redirected to more realistic and productive efforts. By so doing, policy-makers and politicians could be more realistic in their promises, which would enhance their accountability, and the public would have a more educated and informed opinion to make better decisions. This places a great responsibility and pressure on the shoulders of academics. Hopefully this paper is a step forward in that direction.

7

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