The evidence-based cargo-cult and the de-moralization of (educational) decision-making: A critical reflection

Letizia Caronia
Full Professor, University of Bologna
e-mail: letizia.caronia@unibo.it

After decades of epistemological warnings on the social construction of science, we are witnessing a (renewed) paradigmatic consensus on empiricism in (social) sciences and shared trust in evidence-based practices and decision-making. As recent debates on the adoption of pandemic-related norms illustrate, science is invoked to justify policies as if good, justifiable governance should be a value-free, non-discretional corollary of scientific knowledge. Drawing on the recent debate on evidence and normative authority in social sciences, this paper brings the focus back to the poetics and politics of scientific knowledge and shows how it needs to hide its quota of arbitrariness to work as a solid base for justifiable decisions and sustain policy makers' de-moralization of their own decision-making.

Keywords: Knowledge, Decision-Making, Evidence-Based Policies, Morality, Science.

Il "culto del cargo" delle evidence-based practices e la de-moralizzazione della decisione (educativa).
Malgrado decadi di serrata riflessione epistemologica sulla costruzione sociale della conoscenza scientifica e il tributo che essa paga alle circostanze della sua produzione, si assiste ad un rinnovato consenso sulla necessità di fondare le decisioni (politiche, educative) sulle cosiddette evidenze empiriche. Come ha mostrato il recente dibattito sull'adozione di norme sociali durante la pandemia, la scienza è invocata quale presidio di certezze che giustificano la decisione politica, come se la buona decisione fosse e do-

vesse essere una pratica libera da valore, una sorta di corollario pragmatico e non discrezionale dell'enunciato scientifico. L'articolo intende riflettere sui rischi impliciti in questa de-moralizzazione della decisione: dalla delega all'esperto alla neutralizzazione della propria responsabilità nel (im/pro)porre fini e mezzi.

Parole-chiave: conoscenza, processi decisionali, evidenze empiriche, etica, scienza.

Scientific world vs. life world: An untenable distinction

It is commonly assumed that the best policies and practices are those that rely on information and knowledge of the phenomenon the policies are about. The more accurate, complete and reliable the information and knowledge are, the more tailored the decisions supposedly are to the features of the phenomenon and will be relevant. Our confidence in the empirical knowledge of reality has a long history within the western worldview and – starting from Enlightenment rationalism – trust on scientific knowledge as the best basis for decision-making has become increasingly commonsensical. This trust lies at the core of a widespread practice in governance: stakeholders, decision makers, and administrators routinely ask for research; however, not just any kind of research. They mostly ask for research that has clear implications for policy and practice. This basically means a generalized or generalizable knowledge *of* reality that can be used as a solid premise to legitimize a plan of action *for* reality. The relationship culturally established between scientific knowledge and policy-making gives primacy to knowledge over praxis, to science over any other source of information (i. e. personal wishes or opinions, guidelines from the supernatural world, witchcraft, ancestors' traditions, elders' wisdom but also passions, impressions and emotions) and guarantee the inner rationality although not necessarily the success of the action. Regardless of the epistemological queries about the relationships between the world depicted by science and the lived world (see Rabinow, Sullivan, 1987; Steier, 1991), aside from optimism or pessimism as how scientific knowledge may effectively impact on practices (see Fiske, Shweder, 1986; Nevo, Slonim-Nevo, 2011), scientific accounts of reality are still considered the strongest and most reliable background

knowledge, providing resources to understand and to perform in appropriate manners.

The implied link between knowledge *of* reality and action *for* reality is a logical one: practice (i. e. policies, protocols, guidelines) is accounted for as a logical consequence of a premise (i. e. scientific data and statements). We call this procedure evidence-based decision-making or evidence-based policies. The trust of scientific discourse as providing evidence for how things are or will be under certain controlled circumstances is based on a major unstated assumption: the ontological rupture between the Life-World (i. e. what science is about) and the Science-World, between everyday discourse, social representations and practices and scientific discourse, representations, and practices. These two realms are supposed/assumed/believed as being organized according to different and independent logic, methods and vocabularies. It is precisely this ontological difference/independence that supposedly guarantees the objectivity of scientific discourse: once constructed according to the methods and rhetoric governing the world of science, scientific discourse can represent the world as it is or as it will be under certain controlled circumstances.

In the second half of the 20th century and particularly since Husserl's warning on the Life-world origin of science (Husserl, 1954/1970), many scholars underscored the fuzzy boundaries between mundane methods and scientific methods and between everyday practices and scientific practices (see Lynch, 1992; Pickering, 1995). Social and philosophical studies of science showed how and to what extent scientific "facts" are established not only according to epistemic values (on epistemic and non-epistemic values in science see Longino, 1990; 2002; Douglas, 2007; 2009; Carrier, 2013) and agreed-upon scientific methods; they are also oriented by non-epistemic values and are the product of mundane practices other than "the scientific method" (see Knorr-Cetina, 1983; 1999). Despite this epistemological stance, the opposite line of thought prevailed during the 20th century: at least since Cochran's (1972) plea for evidence-based medicine, the idea of a de-subjectivized, neutral, objective science became definitely accepted as the one defining what science is and ought to be to be a base for policies and practices. The issue I want to reflect upon is not whether science is, should or could be a value-free enterprise producing objective findings, but what the premises and consequences are of considering it the only legitimate basis for policies and practices. Drawing on a previous work

(Caronia *et al*, 2019)[1], in this essay I will sketch the main premise of the recent turn toward evidence-based decision-making: the need to format scientific findings in ways that conceal its mundane origin. I argue that this format nourishes our need of certainty and is functional to cultivating our sense of being in control of a predictable world. In the discussion, I advance that the main consequence of this turn is the systematic de-moralization of our decisions as if they were nothing more than corollaries, logical consequences of evidence–formatted scientific knowledge. I conclude by raising concerns as to what seems to be a relinquishing of human-agency-driven action and related responsibility, in favour of a back-projected "evidence" agency, a "distributed responsibility" ideal, and a defensive model of decision-making.

The search for evidence-based knowledge: A long-standing cargo-cult in social science

Although many fields of study tend to produce what Bourdieu called "the naturalization of its own arbitrariness" (Bourdieu, 1977, p.164), some of them are particularly committed and expected to produce "evidences" for implementing social policies and practices: health care, education, psychology and nursing are, understandably, among them. The question, of course, concerns what is considered to be evidence. A hierarchy of evidences (and therefore a hierarchy of the different research methods producing them) has already been established and slowly migrated from evidence-based decision-making in medicine (Cochrane, 1972; Evidence-Based Medicine Working Group, 1992) to evidence-based policies and practices in education and other applied sciences (for a plea in favor of evidence–based education see among others Slavin, 2002, 2004; for a critical stance see Howe, 2004). Basically, this approach (for some even a paradigm) establishes that decisions should be based on evidence, evidence originated from empirical research, and the best evidences are those from randomized controlled trials or analogous scientific research designs giving epistemological primacy to quantitative-experimental studies. Although the evidence-based approach has been deeply criticized even within medical

[1] While recycling some considerations of this previously published work, the present essay pushes the theoretical analysis a step further toward some still unresolved dilemmas.

studies (for an overview of the criticisms to evidence-based medicine see Cohen, Starvi, Hersh, 2004), it still has a strong appeal. As Olson (2004) pointed out, this appeal may easily be understood by considering the optimism and hope generated by this view of science as well as the ignorance of a very simple and irritating fact: the research design used for medical randomized clinical trials is not applicable in most social science research. The analogy between evidence-based practice and decision-making in medicine and evidence-based policies and practices in fields such as education, psychology, or nursing is therefore as hope-creating as it is misleading. There is no way to reach the perfect double-blind condition that allegedly would guarantee the evidential quality of results. First, the *ceteris paribus* basic principle of evidence-based medicine or practices (i. e. setting analogous and uniform treatment conditions) is inapplicable for most social science research: although sampling is widely considered a tool for transforming individuals into interchangeable occurrences of the same type for all practical purposes, in most cases (e. g. education, nursing or psychological intervention) people react differently to the "same" stimulus. Any single action, word and even a well-known and iterated practice can result in a new or diverse treatment (Erikson, Gutierrez, 2002; Olson, 2004). Second, participants are quite aware of the processes they are going through (i. e. not blind as to the independent variable, were they part of the control/placebo group or of the experimental/treated group). Third, the tools the researchers use (their spoken language in interviews, their written language in questionnaires, the experimental setting, their presence, recording devices, analytical categories and coding systems) do not fit an objective, manufactured fixed formula such as a "the ingredient of the aspirin" (Olson, 2004, p. 24). Rather, they are semiotic artifacts endowed with meaning, theoretical stances and epistemic values, non-neutral cultural tools submitted to scrutiny and sense making by the recipients of the research practices (Caronia, 2014; 2019). These unavoidable features of social science research (vs. natural science research) have been pointed out by philosophers since the 19th century and constantly underscored by scholars in methodology and by epistemologists: the individual variance, the reflexivity and indexicality of the research practices, the linguistic and cultural roots of methods are not biases that can and must be eliminated or controlled; they are the inner features of social science research (see Gergen, 2003; Gergen, 2015) and challenge any (newly celebrated) evidence-based approach. Despite the above-mentioned long-standing tradition of criticism, the hope generated by evidence-based

medicine rapidly spread into social science domains, producing the quest for the so-called evidence-based practice. As Rabinow and Sullivan (1987) pointed out three decades ago, the search for the method able to guarantee objective scientific knowledge of the social world is our contemporary cargo-cult: something we wish and wait for every day as if one day it would come. This myth nourishes our faith in scientific knowledge as a mirror of a predictable and controllable world and, therefore frames scientific knowledge as the perfect basis for educational or even political decisions. A consequence of this renewed form of scientism in everyday life is the celebration of the "expert" whose competence and reputation is not based on "virtues" such as wisdom, long-term experience, practical and experiential knowledge, clinical sense or professional vision, but on "scientific knowledge": the expert is the one who has privileged or exclusive access to scientific knowledge, the one who knows and provides "evidence", i.e. the objective bases for decision-making. Nothing more than the recent health crisis has displayed our public faith in the "expert", its being systematically convoked and invoked as a new oracle, the "subject supposed to know" how things are going and, moreover, will go. The voice of science, embodied in the expert, "animates" decision-making that appears and should appear as nothing less and nothing more than the operationalization of the expert's voice. Policy makers and decision makers should listen to this voice and translate it in practical terms as if good, justifiable governance should be a value-free, non-discretional corollary of scientific knowledge. Not surprisingly, the subsequent step of such a path from "evidence to action" is the increasingly delivered "guidelines" or protocols, i. e. textual inscriptions of operator-free praxis that should appear as if it were the local corollary of scientific evidence, and not the outcome of ethical, political or even local (educational) arguments. Ideologies, values, moral horizons, cultural models, situated wisdom and whatever criteria other than "scientific evidence" has no right to be invoked as a drive, at least *de iure*. Indeed, and interestingly enough, these non-epistemic dimensions are *de facto* embedded in the (educational) research practices that produce the "evidence" used to justify policies. As mentioned above, non-epistemic values lead scientific research far more than we expect or even wish (for a recent study on how non epistemic values unofficially guided research and practices concerning Ebola virus vaccine, see Varghese, 2021). How is it that they work as "unseen but operating" dimensions? And, why should they remain concealed?

In the next section I advance a possible answer to both questions.

The de-moralization of knowledge and the celebration of scientific expertise

I advance that the celebration of evidence and evidence-based expert knowledge implies and is based on what I would call its *de-moralization*. By this notion, I want to point to the main function of a set of practices aimed at de-subjectivizing scientific knowledge and concealing the plethora of non-epistemic decisions that punctuate (social science) research. For reasons of space, I only mention the main overall strategies without empirically illustrating none of them (but see Caronia, *et al.*, 2019). The first strategy I want to highlight is the ordinary absence of any analysis of the tracks of the mundane roots of "evidence" and findings reported by a study, i. e. their unavoidable and unbreakable bond with the Life-World. Unless sociologists of knowledge or philosophers of science inspect and scrutinize laboratories, methodological practices and published works, this root remains not analysed. It goes without saying that the absence of analysis becomes absence *tout court*. Another common practice concerns the neutralization of what Bourdieu called the "inherent arbitrariness" of scientific knowledge (Bourdieu, 1977, p. 164). There are more than a few techniques to package knowledge as "evidence", i. e. an objective mirror of a piece of reality. These techniques often correspond to the use of the canonical vocabulary and genres to publish and edit scientific findings (see Caronia, 2014). Consider, for instance, the systematic avoidance of any mark of enunciation indexing the "human" origin of findings as if they were the pure product of methodological techniques: the third person perspective, the use of impersonal constructs and the historical present tense contribute in concealing deixis, i. e. any reference to the time, space and person that constitute the Life-World origin of findings. Another example of these techniques of "evidentialization" is the systematic avoidance of evidential marks indexing the level of (un)certainty of findings. Caution is expressed in notes or in separate paragraphs such as the (in)famous "limits of the study" section of most papers, but the main body of the text rarely displays evidential markers such as "could be" or "we think" formula. I advance that if "evidence" stands for "the best mirror of how reality is or will be under controlled circumstance we can have at this moment and until proven otherwise", this meaning is more a *textual effect* than an intrinsic characteristic of knowledge. The textual origin of "evidentiality" is far from being a secondary issue or a detail for epistemologically obsessed scholars: as far as I

know, there is no way to disseminate and make use of scientific knowledge other than entextualizing it.

The second question I would try to answer is very simple, why do we adopt this textual arrangement of scientific knowledge? I suggest that by adopting an objectifying textual format, by legitimizing only textual genres that neutralize and therefore naturalize the quota of arbitrariness inherent to scientific knowledge, (social) scientists protect themselves from what they fear the most: merging facts and values, knowledge and opinion, objective descriptions and subjective assessment. Once produced as evidence through, what semioticians call a "débrayage actantiel" (see "débrayage" in Greimas, Courtés, 1979), knowledge is ready to be used to found and orient decisions that, in turn, will appear value-free, pure logical consequences or operational corollaries of epistemic premises: decision makers (e.g., politicians, teachers, principals) back-project their agency on such *de-moralized knowledge*.

There is nothing really new in the contemporary use of science as a legitimated fig leaf for decisions that are (or even should be) founded on and oriented by non-epistemic values. If – to a certain extent – this fig-leaf use can be relatively understandable for decisions concerning decision-making about what molecule is best suited to fight what disease (evidence-based medicine), it is less understandable when it concerns decision-making in education. Perhaps more than other sites of human sociality, education can and should exhibit the moral character of its aims and methods without concealing it behind "evidence". Do we need scientific evidence to decide that it is good and right to include cognitive disabled children in ordinary classroom? If so, which kind of evidence will "prove" that this choice is better than its contrary? How to found moral normativity in empirical evidence? Moreover, why should we? Why do we fear displaying the systems of values that orient our decisions and conceal them under the 'evidence-based education' mantra[2]?

In the next and conclusive section, I suggest a possible answer to these questions and raise some concerns as to the consequences of contemporary pressure for scientific evidence-driven decision-making.

[2] For a recent outstanding philosophical appraisal of the risks implied in dismissing "value" as a motive, a driver and a scope in its own, see De Monticelli, 2021.

Realism, new scientism and the risk of abdicating human-agency based responsibility

I advance that the shift toward the neutralization and naturalization of the moral horizons inscribed in evidence–based educational decision-making is aligned with the contemporary third wave in social studies of science (Collins, Evans, 2007), a "realistic" turn made relevant by the disturbing outcomes of the second de-constructionist wave in (social) science studies. As Collins and Evans (2007) suggested by quoting the *Qohéleth,* there is a time to destroy and a time to build. After the *destruens* critical thinking that – in the second half of the 20th century – allowed us to become aware of the rhetorical devices and practical tricks through which we construct the "objectivity of scientific findings" and the "neutrality" of methodological procedures, we need to rebuild our confidence in science. The realistic turn, i.e., the so-called third wave in the social studies of science (*ibidem*), has firmly imposed itself since the beginning of the 21st century and it is the contemporary answer to our renewed quest of a predictable world and culture- and operator-free knowledge of this world. After decades of skeptical thinking and critical suspicion toward "misplaced concretenesses", we can accept this new oscillation of the epistemological pendulum toward the realistic pole as a way to gain a balanced view: if facts are theory-loaded and there is no observer-independent knowledge of the world, this does not necessarily imply that anything goes. On the contrary, this awareness of the possible gap between the observed world and the world as it is out there forces us to stay vigilant toward what is assumed as an adequate representation of how things are or will be under certain circumstances. The problem with educational sciences is that they have never been really shaken up by the deconstructionist second wave of social studies of science. Ignoring theoretical warnings against any objectivistic faith (see among others Bertolini, 1988; Caronia, 1997; Mortari, 2007; Iori, 1988; Iori *et alii*., 2010), they remained firmly anchored to a naïf empiricist epistemic culture. The consequence of not having been shaken by the second wave of the social studies of science is a first-degree trust in "evidence-based" practices and decision-making, i.e., the belief that – under certain methodological conditions – it would be possible to produce ideology-free, and moral-independent knowledge. To summarize contemporary faith in and pressure for evidence-based education, I would say that deciding and acting on this allegedly mere epistemic basis is deemed

preferable to deciding on explicitly displayed moral criteria or ideological stances. The disturbing question once again, is why: why would a (demoralized) scientific proof be a better basis for (educational) decision-making than a value-oriented one?

I do not have a conclusive answer to this question but concerns that could nourish our reflective thinking and future theoretical research in education: does this renewed pressure to found (educational) decisions on scientific "evidence" have to do with a problem in assuming the specific responsibility implied in taking and deploying a first-person perspective? Are we as a collectivity pursuing a defensive stance when justifying (educational) decisions on evidence-based protocols of action? Are we relinquishing human-agency based responsibility in favour of a back-projected science-agency and a "distributed responsibility" ideal?

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