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Two Kinds of Social Epistemology Revisited

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On the occasion of the 20th anniversary of the publication of Alvin Goldman's *Knowledge in a Social World* (Goldman 1999), the editors of *Social Epistemology Review and Reply Collective* have invited me to write an update of my 2013 article, "Two Kinds of Social Epistemology" (2013), in which I compared Goldman's contribution to other versions of social epistemology, in particular Steve Fuller's. Towards the end of the article, I touched on the possibility of a future collaboration between the two versions of social epistemology. Following up on this hint, the editors have asked me more specifically to discuss whether or not the conditions for such collaboration have improved in the meantime.

Let me start with the short answer to this question, which is *no*. Instead of effecting a *rapprochement*, it seems that the two branches of social epistemology have grown farther apart. (I am talking about doctrinal developments here, the personal or institutional factors that are possibly at work are of no general interest and will not be addressed here). This development has been brought about partly by the internal intellectual dynamics of the two branches, partly by events in the world at large, which have forced the differences between them more clearly out in the open. Below, I shall lay out the premises for my answer, at the same time as articulating it in more detail.

Analytic Social Epistemology in Brief

As a service to my reader, I shall first very briefly recapitulate the main points of my 2013 article. There, I placed Goldman's work in the context of a larger recent development within Anglo-American epistemology; one, however, of which he himself was the primary instigator. I labelled it Analytic Social Epistemology (ASE), thus hinting at its roots in classical analytic epistemology. The other branch I labelled Critical Social Epistemology (CSE) for want of a better term. It is rooted in philosophy of science rather than in epistemology in a narrow sense; in addition, it is highly influenced by perspectives from the sociology of science. As a matter of fact, I include the foremost representatives of contemporary sociology of science (aka Science Studies), such as Bruno Latour, Harry Collins and David Bloor, among CSEers.

This bifurcation of social epistemology into an analytic and a critical camp represents a huge simplification of a very complex reality. In my 2013 article, I achieved additional simplification by introducing the two schools by means of their most explicit representatives; explicit among other things in officially labelling themselves as social epistemologists. I am referring to Alvin Goldman and Steve Fuller, respectively. In the present short article, which follows up on the 2013 study, I will naturally adhere to this simplification.

In my original article, I condensed the differences between the two branches of social epistemology into the following three headings: methodology, naturalism, and value orientation.

First, let us look at the *methodological* dimension. Although Goldmanian ASE is indeed truly a social epistemology, dedicated to examining the conditions for knowledge generation on a

societal scale, it still carries traces of the individualism, if not downright subjectivism, of classical analytic epistemology; the tendency that famously made the very existence of other persons (other “minds”) a thorny issue for it. This tendency lingers on in its approach to knowledge in its social forms, clearly in evidence for instance in the Bayesian approach to collective justification developed by Goldman. Bayesian probability theory operates with the notion of “degree of belief” (aka “subjective probability”) which applies directly only to individuals but which may then, by aggregation of individuals, be extended to such collectives as juries, scientific committees, and government institutions. In this way, it becomes meaningful to say that a jury or a scientific committee, as a collective body, entertains a certain belief and even does so with a specifiable degree of conviction. Moreover, Goldman’s models provide principles for the systematic organization of multiple bits of evidence, delivered by different members of the same collective body, into a single unit that bestows a determinate degree of credibility upon that body’s beliefs. The models developed by Goldman and collaborators are both normative and descriptive/explanatory: They not only present ideals of rational deliberation for juries, scientific committees and other collective bodies to emulate, but also offer tools for describing and explaining the actual performance of such institutions by the magnitude of their divergence from the ideal.

This dual status tends, however, to undermine the *naturalism* that is a key aspect of the social turn in epistemology, i.e. the willingness to leave the philosophical armchair and engage in empirical investigations. The problem is familiar from the methodology of micro-economics, whose models are close kin to Goldman’s Bayesian models in their methodological individualism and in being simultaneously normative and descriptive/explanatory. Micro-economic model-building famously tends to veer off in the direction of *a priorism*, producing idealized models of rational decision making in the market, the real-life application of which is moot. The highly formalized Bayesian models developed by Goldman and collaborators may be suspected of suffering from a similar weakness.

In any case, the methodological focus of ASE is not on developing abstract theoretical frameworks for empirical research. True to its ancestry in analytic epistemology, much time is spent in ASE on the analysis of individual epistemological concepts, using hypothetical cases and thought experiments as methodological props.

An illustrative example is Goldman’s seminal article about expertise and which experts to trust (Goldman 2001). Goldman spends considerable time working out a satisfactory definition of expertise before getting around to the epistemological question raised in the title. The situation envisaged is one in which a layperson has to judge which of two disagreeing (putative) experts in a given field is the more reliable source of information. The layperson has no relevant knowledge of the subject matter to assist him or her in the process, but is supposed to be capable of applying rational but indirect methods to reach a verdict. Overall, the paper is a classical exercise in analytic philosophy, with its careful examination of the concept of “expertise”, its detailed sorting-out of the different kinds of evidence available to a layperson when grading experts, and finally in its discussion of the merits of various criteria to be used in the process.

Finally, we get to the issue of *normativity*. Although ASE is normative, as all philosophical epistemology, it is so only in a restricted sense. It develops concepts and instruments for the assessment of the epistemic merits of knowledge-producing systems, but will rarely apply these instruments to actual, current cases. Its examples are typically simplified toy cases, used as “intuition pumps”, rather than real-life problems, and it avoids making concrete policy recommendations or commenting on issues of general public concern.

Critical Social Epistemology in Brief

On all these three points, a different stance is adopted by CSE, to which I now turn. Thanks to its ancestry in science studies, CSE adopted a society-level approach from the start: Science is essentially a macro-level, societal way of generating knowledge. Some CSE representatives, notably Latour, even called for a moratorium on individual-level, psychological explanations (Latour and Woolgar 1979, 280), especially such that would invoke a special, “rational mentality” of scientists. Accounting for the progress of science by reference to a particular rational mind-set of its practitioners would be as dubious as explaining the alleged backwardness of tribal societies by referring to the “pre-logical mentality” of their members.

Moreover, CSE is clearly *naturalistic*. It caught the attention of the academic world by presenting a number of striking case-studies of scientific work with controversial, constructivist conclusions: Latour and Woolgar’s laboratory studies (Latour and Woolgar 1979), Andrew Pickering’s work on quarks (Pickering 1984), Steven Shapin and Simon Schaffer’s study of the social origins of the victory of the experimental method (Shapin and Schaffer 1985), and many others.

With respect to both of the mentioned dimensions, Steve Fuller is in some ways the odd man out among CSEers. In the first place, he does not eschew psychology, instead his macro-level orientation shows itself in his assumption that the individual cognizer is flawed and only functions satisfactorily in a social context. In this spirit, he has promoted the study of science by social psychology (cf. Shadish and Fuller 1994). Fuller’s preferred naturalistic (empirical) perspective on science is not that of social psychology, however, but rather of history of science and of ideas in general. He is interested in the *longue durée*; indeed, he likes to survey the totality of the history of science in one synoptic view, and to understand current trends in terms of their historical ancestry. Fuller’s methodological predilection is manifest in his fondness for the acknowledged master of the historicist genre, Hegel, who often pops up in his writings, somewhat unusual for an Anglophone student of science. This methodological preference places him to some extent at a meta-level relative to the rest of CSEers, who concern themselves either with recent phenomena or with particular key episodes in the history of science, and who analyse them with tools borrowed from general sociology.

Finally, we come to *normativity*. In contrast to the attempted value-neutrality of ASE, a normative stance was inherent in all of Science Studies and CSE from the start. It took different shapes in different representatives of CSE, but a shared aim was to challenge the

authority structure of science which was seen as tending towards absolutism and dogmatism, and, in the practical application of science, would often promote reductionism and technological fixes while disregarding such concerns as gender differences, racial inequality etc. The issue of equality loomed large in Fuller's programme, which explicitly aimed at establishing a "level playing ground" in society with respect to epistemic matters. Fuller took a special interest in the distribution and use of scientific knowledge, in contrast to traditional philosophy of science which would focus on its production.

In most other representatives of CSE/Science Studies, such as Bruno Latour, this ideological message was initially largely suppressed, presumably for strategic reasons. It was not overlooked by orthodox philosophers of science, however, who unfortunately misinterpreted it as an assault on science as such. This resulted in an overreaction on the critics' part, which contributed to fomenting the unfortunate "Science Wars" of the 1990s. An explicit and nuanced articulation of the message on the part of Science Studies might have avoided this outcome.

A Look at the Present Situation of Goldman's ASE

Let us now turn to the present situation, as we celebrate the 20th anniversary of Goldman's seminal book. In the interim, the differences between the two branches have become more pronounced, if anything. Already in 2012, Goldman had taken a step towards deemphasizing the social aspect of his epistemology. In an editorial in *Episteme* entitled "Episteme: A New Self-Definition," Goldman announced that the subtitle of the journal, *A Journal of Social Epistemology*, would henceforth read, *A Journal of Individual and Social Epistemology*. While maintaining a special interest in social epistemology, this would no longer be the journal's primary mission (*Episteme* 9 (1): 1, 2012). Instead, it would publish "quality epistemological work representing the broad tradition of epistemology....".

As for the *naturalistic* turn, there has been very little empirical work done in ASE on the veritistic properties of existing knowledge-producing institutions. Such investigations would naturally belong within the sociology of science, but this discipline is absent from Goldman's list of possible future collaborators for social epistemology after its new turn (*ibid*). His list comprises cognitive science, political theory, computer modelling, and linguistics. Goldman and his collaborators have instead been busy adding ever more sophistication to their formal Bayesian models of collective belief formation and its veritistic qualities.

The scarcity of empirical work should not come as a surprise. Assessing the veritistic propensities of actual knowledge-producing societal institutions requires large-scale and very expensive research efforts. Such studies should preferably be comparative in order to pinpoint the sources of variation in efficiency among knowledge producers, and hence would have to involve detailed studies of at least two different regimes of knowledge production. Moreover, they would require an extended time scale, as the lasting outcomes of scientific efforts typically only emerge in the long run. Such general meta-level projects would face great difficulty in finding sponsors among private research-funding agencies, and

public funding institutions would also tend to shun them, out of fear that they might reveal fundamental flaws in the way public research is currently organized.

However, there is a growing cache of data that could provide materials at least for proxies for the required investigations, which ASE could tap into. These data have emerged in a practical context, i.e. the growing number of retractions of published articles in prominent scientific journals. A chief cause of the retractions is the failure of other researchers to replicate previously published experimental results, thus creating suspicions of shoddy work.¹ The high incidence of this calamity has led to talk of a veritable “replication crisis” in science. Moreover, cases of outright fraud rather than just mere sloppiness seem to be ever more frequent.²

This setback for the business of academic journal publication is comparable to the embarrassment of automobile companies being forced to call back cars with defective brake systems, or admitting to installing electronic devices in cars falsifying data on toxic emissions. In the eyes of its critics, this setback for the academic publishing industry is a well-deserved retribution for the economic squeeze it has put on university libraries and other research institutions, by forcing them to buy subscriptions for an ever-growing number of ever more narrowly specialized journals at ever higher rates. Unfortunately, the problem has repercussions far outside the narrow world of academia, as it has fomented skepticism in the general population with regard to a number of scientific disciplines of great societal importance.

The two problems are linked, however. What turned scientific publication into a booming industry was the constantly rising sums of money invested in research by private companies. This is part of the general transition from traditional science to Mode 2-science, which is mainly financed by businesses and is carried out in close collaboration with its sponsors. The outcomes of the research still need the quality stamp provided by publication in established scientific journals, however, which makes these journals players in the general Mode 2 setup with its high economic stakes.

A recent article in *Issues in Science and Technology* offered an interesting breakdown of the statistics on popular attitudes to science in the USA, pointing to a link between the level of trust in a given discipline and its source of finance.³ While the general level of trust in science has been stable and fairly high since the 1970s as compared to other societal institutions, there is widespread distrust in food science, in certain sectors of medical science, and in climate science. These disciplines all deal with issues about which there have been

¹ Monya Baker, May 2016, “1,500 Scientists Lift the Lid on Reproducibility. Study Throws Light on the ‘Crisis’ Rocking Research,” *Nature: News & Comments*.

² For obvious reasons, it is hard to develop reliable statistics on the incidence of fraud and other types of scientific misconduct. For a discussion of the number of retracted scientific articles as an indicator, see R. Grant Steen, Arturo Casadevall and Ferric C. Fang, 2013, “Why has the Number of Scientific Retractions Increased?” *PloS ONE* 8.

³ Cary Funk, 2017, “Mixed Messages about Public Trust in Science,” *Issues in Science and Technology* 34 (1).

strong controversy, well covered in the media. The level of controversy reflects the societal importance of the sectors in question, and the political and business interests involved.

In the general population, an impression has been formed that these controversies are driven by the economic interests of the main commercial sponsors, such as the pharmaceutical industry, the food industry and the fossil fuel sector. Faced with this level of controversy, the general public has increasingly come to rely on its own gut feeling in such matters. This spontaneous reaction, however, turns out to be largely shaped by ideology and political conviction, or by the psychological appeal of a spokesperson for one or the other position.

This predicament has been evident for quite some time with respect to one of the most important challenges facing mankind today, viz. climate change. In contrast to some of the other areas mentioned above, this is one in which there is by now almost complete consensus among experts, to the effect that climate change is real and to a large extent manmade. This scientific unanimity has made little impression upon the general public, however, whose divergent beliefs on this issue are largely shaped by their political convictions, in particular in the USA. This development suggests that the key task for social epistemology is no longer to devise rational criteria for establishing the relative trustworthiness of disagreeing experts, but to get the general population to trust science in the first place.

Social epistemology is dedicated to improving the societal production of knowledge, and examines which social conditions are propitious to such production and which are not. ASE rightly considers science to be the primary provider of truth in modern society. Its efficacy, however, is crucially dependent upon the readiness of politicians and the general population to follow its advice. Hence, the observation that this willingness is flagging, at least on certain very crucial issues, should be a cause of concern, and should be made an object of scrutiny.

These developments have left few marks upon Goldman's recent work, however. Quite conveniently, he has provided relevant materials for a comparison in an article appearing in 2018, as a follow-up to his original article about expertise (Goldman 2018). The new article mainly adds some refinement to the original analyses. The paradigm epistemic situation remains that of a lay person facing incompatible claims from disagreeing experts, and trying to decide between them in a rational way. In view of the virtual consensus among experts with respect to climate change, however, this means that the Goldmanian approach is no longer relevant to this issue. It has moved out of the area within which ASE preferably operates, and out of reach of its favoured methodological instruments. This is probably the reason why Goldman touches on the issue of climate change only towards the end of his article. Yet, this most severe real-world problem is at its root a problem about society's handling of scientific knowledge, and hence belongs within the remit of social epistemology.

In his brief final remarks, Goldman reveals a clear awareness of the sources of the problem. He points to the economic power of industry to influence the publication and dissemination of scientific findings that impinge on its interest, and the dangers posed by the spreading of

unfiltered bogus claims on the internet, and he announces that future work will address these ills. It is certainly about time that ASE took an interest in this problem, which has already attracted considerable attention from people outside of the profession. Such expressions as “the death of expertise” and the coming of “post-factual society” have become household terms in the media; indeed, Goldman’s contribution was published a full two years after Oxford Dictionaries in 2016 had declared “post-truth” to be its international word of the year, citing that its occurrence had increased by about 2000% as compared with 2015. Such an announcement should surely have provoked a strong reaction from a discipline that has made truth and “veritism” the keywords of its enterprise.

As mentioned above, research suggests that people’s divergent attitudes to climate change spring from their underlying political and ideological commitments. This situation calls for a strengthening of the empirical, sociological side of ASE. What is required is an examination of the societal factors that have produced the “death of expertise” and have created “post-factual society.” Such a project would clearly move ASE even farther away from its origins in classical analytic epistemology and out of its natural comfort zone. But this is a price that must be paid lest ASE become a “knob that does not turn anything” in the machinery of societal knowledge production.

The Present Situation of Fuller’s CSE

By contrast, Fuller has explicitly addressed the possible coming of a “post-truth” society (Fuller 2018). He frames this possible event in a highly unorthodox way, however, and even puts an optimistic spin on it. Where most people see “post-truth” society as a threat, Fuller sees it as a liberator and creator of opportunities. To him, it means a society in which “truth” (or “truths”, or “the facts”) does not function as an obstacle to human aspirations, but one where humankind *makes things true* through political action. Thus, while in most philosophical writings scientists are the good guys and politicians are villains, Fuller’s view implies a rehabilitation of the latter. More precisely, he assigns two different but equally valuable roles to the two professions. Politics is the art of the possible, where the space of possibilities is (partly) defined by science.

Fuller’s position is *constructivist* in several senses of this term, including the esoteric Dummettian anti-realist sense, according to which the truth value of (some) sentences about the future is indeterminate and the future may thus be said to be open. Fuller seems currently to be experimenting with different ways of articulating his position, among other things invoking quantum mechanics to capture the indeterminacy of the future (Fuller 2018). It might be preferable to express his point in terms of reality rather than truth, however, and in this rendition, what he opposes is the conception of reality as an immutable monolithic entity beyond human influence. Instead, Fuller insists that the future is open, and specifically leaves room for the efficacy of human action.

In view of Fuller’s various but somewhat fanciful framings of his position, it might be helpful to point to a normalizing interpretation of it. This would assimilate it to the *critical realism* of Roy Bhaskar and his associates, according to which the world revealed by science is

much deeper and richer than the surface it presents to our senses. It is a world of potencies and potentialities, of alternative scenarios that may become real if we choose to make them so. These potentialities are grounded in real mechanisms existing far below the threshold of human perception, however; hence the “realism” in critical realism. The secret of mankind’s power to change its surroundings and shape its own future is precisely its ability to discover, analyse and manipulate these hidden mechanisms.

Fuller would no doubt dismiss this trivializing interpretation, partly because of its realist stance with respect to the underlying mechanisms, but even more because it reserves no place for the grand historical narrative within which he situates current developments within science and its social reception. Fuller sees this as an episode in the story of humankind’s steady march towards radical self-transformation through science. For him, that story has a religious subtext, of which he is fond of reminding us. Basically, it is a secularized version of the Christian tenet that man was created by God in his own image. This does not imply that man is equal to God, but rather that man can overcome the limitations of his worldly incarnation, and indeed has a sacred duty to do so. On a traditional interpretation, this is achieved only in the afterlife, and only for the select few, although the attempt to reach salvation is a duty imposed upon all believers. On a secularized reading of this tenet, it imposes upon man a duty to transform himself into a superior being, a goal that modern technology has brought within reach by giving us the tools for creating what Fuller calls *Homo 2.0* (Fuller 2013).

Fuller’s optimistic take on the situation is supported by another characteristic Fullerian tenet, i.e. his heterodox reading of the standard meta-ethical principle that “ought implies can.” On a dogmatic religious reading, it says that if the deity imposes a duty on us, this entails a guarantee that we can actually accomplish what is required of us, although it may seem to call for a superhuman effort. In secular philosophical ethics (meta-ethics), the tenet is understood by contraposition, i.e. to say that if something is *not* (humanly) possible, it *cannot* be a (human) duty to do it. Fuller’s compromise reading says that if carrying out some (sacred, divinely imposed) duty is not humanly possible, then it is our duty to *make* it possible—which we accomplish by transforming ourselves into superior beings. This transformation will take place on a large timescale and with the human species rather than the individual as its object.

Fuller clearly holds that the historical duty imposed by this compromise reading can and will be fulfilled by mankind. When viewed in this optimistic perspective, the current worries over political interference in science and of the emergence of “post-truth” society become insignificant details. The essential optimism of Fuller’s social epistemology is manifest in his espousal of two interlinked normative principles: the *proactionary* principle, and what he terms *superutilitarianism* (Fuller 2013). Simply put, the proactionary principle counsels us to accept great risks when deciding upon important societal issues, as history demonstrates that the progress of mankind was propelled by such risk-taking whereas its opposite, the precautionary principle, has led to stagnation.

Fuller's superutilitarianism is already implicit in this argument: It is basically just utilitarianism operating on a very long-time scale, not confined, as is usual, within the lifespan of human individuals. It thus would warrant policies imposing hardship on current generations provided it was outweighed by the increased welfare of future generations, however distant. The proactionary principle presupposes this principle when looking for vindication in the historical pattern of long-time positive effects of social events that involved high costs of immediate human suffering.

In fairness to Fuller, it should be emphasized that he does not stand alone in this panglossian understanding of world history: Although it may be rare among representatives of the humanities and the "softer" social sciences, it is very common among economists and in policy circles influenced by them. They blend ideas from Marxism and neo-liberalism into a philosophy of history that sustains an unshakeable faith in historical progress. The basic idea is that the advances of science and technology and their utilization within the framework of a market economy will ultimately prevail in producing universal prosperity for mankind, easily overcoming such minor obstacles as climate change along the way. Fuller may well be right that this conviction should be seen as the perpetuation of Christian ideas in western thought. Certainly the stubbornness with which the idea of progress is upheld in broad segments of the population suggests that it springs from the same psychological sources as religious faith.

In Conclusion

I believe that the above observations have served to document a widening gap between Goldman's ASE and Fuller's CSE. ASE remains a professional academic enterprise, showing considerable reluctance to address real-life problems and a tendency to veer off into technical detail, at a time when a critical audit of current scientific practices and of the dissemination of their results is sorely needed. Fuller's CSE, on the other hand, has come clean as an ideological enterprise, adequately described (to use Fuller's own favourite terms) as a secularized version of the Christian aspiration for man to become godlike. In its secularized version, this is the ambition to use science to effect a radical transformation of *Homo sapiens* into *Homo 2.0*.

The advent of post-truth society and the climate crisis have also made the methodological differences between the two branches of social epistemology stand out starkly. Goldmanian ASE has (so far) failed to address these two issues as they are without range of its methodological tools, and are too heavily inflected with politics and ideology for its taste. By contrast, they are too small to register within Fuller's Grand Narrative of the steady progress of mankind towards self-transcendence, and the current worrying over climate change and post-factual society grates against his optimistic, panglossian understanding of world history. It is ironic that neither of these rival approaches to social epistemology has given sufficient attention to these two striking and ominous examples of misalignment between the producers and consumers of scientific knowledge in modern society—a society that used to flatter itself with the title of "knowledge society."

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