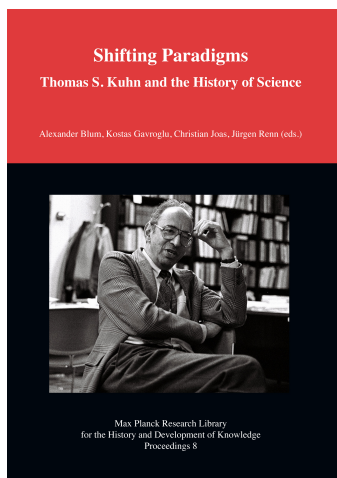


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Kuhn, Meritocracy, and Excellence



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## Chapter 19

### Kuhn, Meritocracy, and Excellence

*Michael Segre*

Two terms are frequently mentioned in relation to science and education: “meritocracy” and “excellence.” They are often confused, although they express conflicting concepts—meritocracy normally aims at conforming to a framework, whereas excellence breaks away from it. I argue that Kuhn realistically describes science as a structure that seeks merit, rather than excellence, which is what science and education mostly require. This has implications, *inter alia*, on the history of science, which is also generally oriented towards meritocracy rather than excellence.

The term “meritocracy” was coined by the British sociologist Michael Young in 1958, four years before *The Structure of Scientific Revolutions* appeared (Kuhn 1996). The proximity of these events may not be coincidental. In a sarcastic, fairly prophetic book entitled *The Rise of the Meritocracy*, Young portrays and criticizes Britain under the future rule of a class favoring merit.

Yet, what is merit? The back cover of the Pelican edition of Young’s book defines it as “intelligence + effort”—a definition that only appears to be clear-cut for there are multiple and distinct criteria of merit (and also of intelligence and effort), which are at times subjective. In fact, the book implies diverse qualities, such as competence, credentials, commitment and popularity—all steering towards what we generally call “success”—assessable in relation to a given framework. In perusing *Structure*, it is amazing how one finds all these terms in reference to normal science. Education, though requiring excellence, above all incentivizes merit as well.

No doubt as Young argues, meritocracy is better equipped than past social structures, such as those based on caste, gender, race, or, more recently, membership in a political party, in achieving certain goals. Meritocracy renders a state apparatus more efficient. It helps in winning a war. It has kept empires going. The ancient Chinese rulers, inspired by Confucius, had already understood the importance of meritocracy. Similarly, the British Empire was so successful thanks to a network of civil servants hired on the basis of competitive examinations. And Napoleon was initially successful in his campaigns thanks to a meritocracy edu-

cated in the newly founded French “Great Schools.” Napoleon’s imperial meritocracy breached the traditional class separation and included a curious mixture of revolutionaries, army officers and former aristocrats, among them illustrious scientists. (Hahn 1971, chaps. 9 and 10; Belhoste 2003, chap. 1) Today, institutions such as administrations, firms and universities all encourage meritocracy. Women have been emancipated thanks to meritocracy. In general, we can thank meritocracy for much of our well being and feeling of security.

The leading meritocrats of yesterday and today are admired and said to excel. Here lies the confusion: excellence conflicts with merit. To excel, as the Latin root suggests, means to break a framework, not to make the best of it. Meritocrats can be excellent individuals, yet their performances are normally judged in relation to specific frameworks and goals. As such, they conform; the excellent often do not. Young seems to have understood this, hence his reserve and sarcasm towards the current encouragement of meritocracy.

Kuhn, on the other hand, portrays science as giving more attention to conformism than excellence. He grants that excellence, or “genius” as he calls it, is required to “shift the vision” i.e. to create a new paradigm, incommensurable with the former one (Kuhn 1996, 115–122; this argument, by the way, is self-contradictory for one needs nonconformity to break a framework). He allows scientific leaders to be sufficiently nonconformist so as to break the framework occasionally, but normal scientists conform both in following the paradigm and in switching allegiance to a new one when told to do so (Kuhn 1996, 152–153). He considers normal scientific activity, rather than excellence, to be the main avenue to the “*gestalt* switch.” (Kuhn 1996, 166) A new paradigm wins consensus within the scientific community that endorses the choice, either irrationally or through common sense. In Kuhn’s words, a scientist is successful when his endeavor “is rewarded through recognition by other members of his professional group and by them alone” (Kuhn 1999, 21). Kuhn rightly uses Galileo as an example of excellence (Kuhn 1996, 119). Yet the secret of Galileo’s success was precisely in his nonconformism and ability to break scientific, literary, social, institutional and other boundaries. No wonder he was punished by the gatekeepers of tradition and conformism.

Admittedly, research today—both “hard” and “soft”—closely follows Kuhn’s meritocratic picture. Editors of scientific periodicals and books—the springboard for academic success—as well as their purposefully chosen peer reviewers, employ meritocratic criteria (Agassi 1990). Normal scientists become opinion leaders in the wake of their popularity, rather than their contributions to science. Opinion leaders are mentioned in scholarly meetings and publications as a matter of ritual, their arguments repeated, hailed and embellished with trendy expressions. Universities, especially those called “centers of excellence,”

select and praise faculty and students according to pre-established parameters (Readings 1996, chap. 2)—an evident contradiction causing confusion. Criteria for the evaluation of projects or exam questions are formulated accordingly. Students are said to “excel” when they manage to produce a flawless, up-to-date compliance with currently accepted views. The damage is vividly described by Karl Popper in his *The Open Society and Its Enemies*:

Instead of encouraging the student to devote himself to his studies for the sake of studying, instead of encouraging in him a real love for his subject for inquiry, he is encouraged to study for the sake of his personal career; he is led to acquire only such knowledge as is serviceable in getting him over the hurdles which he must clear for the sake of his advancement. In other words, even in the field of science, our methods of selection are based upon an appeal to personal ambition of a somewhat crude form. (Popper 1966, vol. 1, 135)

Popper’s follower, Joseph Agassi, labels students who are on the way to becoming normal scientists or academics, in Kuhnian terms, “super-normal.”<sup>1</sup> For Popper, the resulting normal scientist “is a person one ought to be sorry for [because he] has been taught badly” (Popper 1970, 52).

The reasons for sticking to meritocratic criteria are easy to comprehend: a meritocratic option is safer than a violation of the framework; excellence is harder to recognize since it often takes time to become established. Yet, the establishment excludes nonconformists at the risk of thereby excluding excellence as well.

Yet today more than ever, the need for excellence is great, both inside and outside science. Kuhn and Young wrote half a century ago, in a period in which meritocracy was still needed and triumphant. Today, empires no longer die slowly and peacefully, as the British Empire did, but instead crash like the Soviet Union. That crash, incidentally, was to a great degree due to the development of science and technology, as Mikhail Gorbachev openly admitted: it came in the wake of the Chernobyl disaster (Gorbachev 2006). And many economists who caused the ongoing global economic crisis came from so-called “centers of excellence.” To be sure, this was and still remains a complex crisis, but “centers of excellence” are considered such because they manage to create an aura of leadership and become a reference for better or worse.<sup>2</sup>

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<sup>1</sup> Stated repeatedly in conversations with the author.

<sup>2</sup> Not being an economist, I am not in the position to judge who is responsible for the recent economic crash. Let me however refer to Gary Stiglitz’s article (2010), which holds Alan Greenspan, Robert Rubin and Larry Summers accountable. From *Wikipedia* (accessed July 19, 2014), I learned that Greenspan received an M.A. in economics at Columbia University; Rubin graduated summa cum laude in economics from Harvard University, and later attended the London School of Economics

It is not that these centers should be closed, or that we should encourage anarchy or altogether abandon a meritocratic approach for which we still have no substitute. Yet, it is wise to be aware of the need for excellence and how it differs from merit, in order to avoid confusing the two and to better engage with opinions that are not quite in line with the received paradigm. To reduce risk, changes of frameworks can be controlled and made gradual.<sup>3</sup> In any case, when requesting merit, it is advisable to clearly specify and debate the criteria for merit. If this is not done, one falls into the generally accepted, confused meaning of the concept.

To conclude, the history of science has gone through a few paradigm shifts, including that of Pierre Duhem, who a century ago freed the field from the yoke of positivism and inductivism, as well as that of Alexandre Koyré and Bernard Cohen, who both studied the significance of mistakes and failures in research (e. g. Koyré 1978, 65–66). And yet, titles of recent science history publications, as well as titles of meetings and their invited participants, suggest the adherence to the general trend of conformism, rather than excellence. Leading historians of science create a confused conformism to a confused paradigm, which is at times hailed as brilliance.

The history of science can lead the way, since it can pinpoint past cases of real excellence that are not always easily spotted, and foster their repetition. This implies the particular responsibility of calling to attention the fact that merit does not always mean excellence.

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and received an LL.B. from Yale Law School; Summers studied at MIT and Harvard, receiving a Ph.D. from the latter. Moreover, in 1983, at age 28, Summers became one of the youngest tenured professors in Harvard's history.

<sup>3</sup>By means of what Popper calls “piecemeal [social] engineering,” which he considers as “the only rational one,” Popper (1966, vol. 1, 157).

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