

Slow Science Manifesto

Academia undergoes radical shifts. New forms of management, financing, and goal setting change the conditions of research. In different places in the world these developments are questioned. We share many of the ideas of this movement. A slow science movement is emerging...

I. Science is not a business

Society, policies and universities underwent profound changes in the last few decades. Market laws and monetarism dominate politics and public service. Scientific and technological innovation is defined as crucial to the knowledge economy. Universities have been subjected to totally new conditions: a business model currently redirects work and working conditions towards competitive and utilitarian outputs. Research is to a considerable extent streamlined through externally defined programmes of R&D, privatized research resources and results (patents; spin offs), and--mainly quantitative--criteria of scientific 'excellence'. Workloads have become excessive and labour contracts precarious. Curricula were 'flexibilized' and 'modularized' to enable the commodification of courses meeting individual needs.

This business model of academia, based on principles of intellectual and economic meritocracy, needs critical appraisal and resistance. The increased privatization of education and research needs to come to an end. The university should not take part in the perverse neoliberal logic of the socialisation of costs and the privatization of gains. State (and therefore tax payers) subsidized research should not be at the service of spinoffs of all sorts. Overwork and (self) exploitation of young, precarious academics should not be the norm. Contributing to the glory of corporations is not the aim of academic work. The university is neither the R&D branch of business corporations nor the endorser of a (politically supported) knowledge economy.

We call for a new constituent discussion on the basics of scientific research and education, the mission and nature of universities and the practices in research. That is the aim of this movement and this call.

II. Science at the service of society as a whole

Slow science is obviously not idle science. Neither is it science as done 'in the past', in some Golden Age when research and the researchers' independence were presumably respected. The economy shifts towards postindustrial models: the so called 'knowledge society'. Society faces global change and systemic challenges. Universities have specific responsibilities not only because the knowledge it produces will play an indisputable part in the answers to these challenges, but also because of its position as an intergenerational institution.

The students of today and tomorrow are part of the generation which will have to actually confront what we now can hardly imagine. We deem it urgent that universities address this new responsibility and we strongly feel that this daunting task is made impossible by the one sided relationship of academia with knowledge society through the privileged channels of the knowledge economy, biased by private interests and fast science.

Slow science favours the establishment of research agendas based on the priorities of actual global challenges. Slow science is not intended to deliver ready-made answers or magic pills, as those will not work with challenges such as megacities, resources depletion and global warming, militarization and war, discrimination and racism, and our generally unsustainable development. Slow science also needs embedding in what should become a true knowledge society: a society where different kinds of knowledge, be it academic or locally embedded, are recognized as crucial components for reliable co-productive modes of knowledge production.

This involves a radical re-conception of the ethos of researchers. They cannot just accept that the only valorisation of scientific knowledge is the existing academic practices. They cannot submit to the selection mechanisms between those who “know better” from those who will have to adapt. They have to learn and teach active awareness of the way knowledge reliability is to be regained each time it aims for relevance in a new problematic environment. This also involves radically different mechanisms and procedures for the funding and evaluation of research activities.

III. Education and science for all - knowledge as commons

Education is a human right and science should be common for all. By choosing the term “slow”, we connect with other “slow” movements resisting the privatization of common concerns and the resulting bad quality of the answer to these concerns. Privatized science means fast science, that is superficial science, and in that respect often bad science. Science, like language, is not a private affair and it should not be privatized. The ‘commoning’ of science, as opposed to privatization, is one of the main goals of our movement. Sharing knowledge and increased transparency of knowledge production are keywords. Universities and university colleges should be institutions of education and (responsible) research. Both are based on a long term vision. Education should not only be subjected to the needs of the labour market, students should not only be considered as subcontractors to an individualized credit system.

The aim of academic education is in the first place to create a time-space for formation (Bildung) around subjects that matter. The link between education and research which characterizes scientific education should become an inclusive one. It should aim not only at the formation of specialists. It should transform the fact that today high numbers of people have higher education degrees into a vector in the formation of collective intelligence and imagination.

In order for specialized knowledge to become able to participate in this formation, one of the main challenges for education should be to actively couple specialization and the formation of 'amateurs', that is 'connaisseurs' of science able to discuss and mediate the contribution of such specialized knowledge to the world at large and its problems. We need the practitioners of specific scientific practices to be trained not in 'monasteries' protected from the noise of the world, but in 'schools' where they learn to situate what matters for them among the wide variety of what matters for others. The current need to deliver a growing number of scientific "products" combined with the increasing 'precarity' of the research contracts impedes us to reach that goal.

IV. Accountability in the knowledge society versus profitability in the knowledge economy

Academic freedom is seriously in danger not only by privatization of research and education, but also by the logic of management that has taken hold of the university. Output based assessment has led to an irrational race to publications. The overproduction and very competitive selection systems have decreased the quality of peer review and increased the closed incestuous selection criteria, if not the temptation of fraud. Moreover these external and blind quantitative selection models tend to take over autonomous, contextualized decision making. This encourages the dominance of one vision on science determined by external funding criteria and particular goals set by contractors. Ultimately these conditions shape a hostile working environment characterized by competition, hierarchy and the worst kind of meritocracy. This, in turn, undermines the possibilities for a supportive environment that facilitates other forms of knowledge creation and collective work.

Slow science accepts the principle of accountability. It rejects "fast" accountability blindly imposed by the logic of management. Slow science strives to truly deserve the trust of the wider community, which science too often claims as its due on almost religious grounds. Such trust is not compatible with a model in which competition, and the hunt for research money is the sole driving force. Its accountability is based on taking seriously the problems of common concern in a situated, non ideological manner.

As for evaluation, which the logic of management has turned into a insuperable and overwhelming duty, slow science demands that it be relevant, that is, conceived in a way which respect for the diversity of fields and angles and sensitive to its consequences. We feel it is scandalous that universities do not even try to seriously assess the effects of present-day modes of evaluation and slavishly conform to managerial injunctions. Research agendas are submitted to these injunctions. Researchers are conditioned by industrial Human Resources management techniques and loose control over their production.

There is no encouragement, or simply no time left, for intervening in the public debate. One of the highest calls of academics, to contribute to public debates, is marginalized. The growing importance of the knowledge society is manipulated through commodification of knowledge and privatization of applications. This situation is even aggravated by the instrumentalization of scientific research by governments that finance policy research of which they want to control the communication, if not the outcome.

The quality of sound science cannot be secured in the actual conditions of the university. Slow science is open science, also in the sense of open source science. Findings in science belong to mankind not to corporations.

V. Developing other conditions and practices

The Slow Science Movement calls for an active resistance to the dominant trends of exclusive and exclusionary knowledge production. We call for the development of different conditions, and the commitment of policy makers, funders, research program managers, leaders of research organizations and individual researchers to a new deontology of the sciences. We call upon individual researchers, but also scientific associations and unions, and even departments, faculties and governors, to accept the discussion and critically assess the regimes imposed upon us. We open the discussion to develop principles, proposals and guidelines to radically reorient the course of knowledge production. We call to share proposals and experiences, to support and further develop worldwide networks struggling for slow science.

We develop here merely minimal, general conditions which must be met, before a 'better innovation', 'another science' becomes possible.

1. Publicly funded research entities have to remain public service institutions for research and knowledge oriented to enhance the commons. They cannot be submitted to private interests and goals or to the imperatives of the knowledge economy.

2. Scientific policies should recognize the specific conditions and qualities of sound science and thus provide for enough public funding to maintain independent, but responsible enquiry as the core business. Since clear boundaries between so called 'fundamental' and 'applied' science do not always exist, funding schemes should provide for a well considered balance and exchange between research on both sides of the spectrum. Research in the service and to the benefit of private property interests should be paid with private money only.

3. The research agenda should be developed in response to the great systemic challenges, the political, cultural, social, ecological and economic questions before us and contribute to changing the collective behaviour of humanity. The Slow Science Movement defends an approach to education and research that directly or indirectly fosters social and environmental justice.

4. The communication and spreading of research results is crucial in the 'commoning' of science. Priority is given to publishing in media that are open up to those concerned. Above all the real democratization of higher education should become a priority.

5. The ever growing publication pressure is killing large sectors of research. It is disciplining researchers, especially the young. To go against this hectic publication pressure, we propose to work towards different evaluation practices that go beyond quantitative output-models. On a research group and on an individual level we commit ourselves to refrain from publishing practices that lead to an ever increasing number of publications with limited concern for and contribution to the quality of knowledge produced.

6. Moreover it is necessary to review the publication procedures: to resist the incestuous overspecialized forms of peer review by introducing in each review an academic of another field, to increase transparency and contradiction in the designation of reviewers, to guarantee time and attention to the review, to re-equilibrate the unbalance between free labour of researchers, reviewers and editors and the profit making activities of paid contributions, publishers and subscriptions.

7. Slow science is open science also in the sense that it is open to the diversity in scientific paradigms and practices. It favours crossfertilisation in multi-, inter- and transdisciplinary practices. The supporters of slow science therefore also agree to act as helpful referees in all matters where their peer assessment is asked for (publication, research proposals, career assessment, education and research assessments of institutions) under the conditions of transparency and contradictory procedures. By helpful referees, we mean referees respecting other approaches in sciences (as far as the internal and external criteria of scientific nature are

respected) and committed to reporting in such a way that it helps those who are assessed to improve their contribution to science.

8. The labour conditions for scientific researchers have to be radically improved. We have to fight against the 'precarity' and 'precarisation' of researchers. As part of the neoliberalisation of the university, temporary and fragile contracts are predominant. There should be more legal and social protection for (young and not so young) researchers and more attention to the persistent gender inequality. We have to re-install equality and collegiality over the actual discourse on winners and losers, expert and ordinary, top and rank-and-file...

9. Fast science is and remains male science. Even if over the last decades women have entered university in increasing numbers, often even becoming the majority in some faculties, their numbers drop quickly in academic posts and become rare in the higher functions. This is not only due to latent sexism (fast science as macho science), but also because academia is more than ever presupposing total dedication with no time off: evenings, weekends and holidays as the real working time (for reading and writing) is presupposed as standard procedure. In those circumstances women are mostly discriminated. The same goes *mutatis mutandis* for the colouring of academic staff. It is quintessential. We cannot go on having our mouths full of 'internationalisation', if we do not do a serious effort to take up the talented people of the global population at least of our own country.

10. It is the duty of researchers to be responsible citizens. When researchers commit themselves in public fora or debates or support a cause as activists, we should defend their freedom of speech and right to act. That is the political core of independent and responsible research. The slow science movement is in that respect also a solidarity movement in defence of research independency and the right to activism based on scientific insights. More precisely we defend a more direct link to society through development of situated knowledge and to resist the single path of technology driven research and development.

11. Slow science is based on a strict research ethics. Due to the ever increasing workload and the stress that comes with it, we witness an increasing fraud, secrecy and network dynamics. We will refuse to publish in order to support corporate or financial interests that run against social and environmental justice. In the same vein, we will refuse to publish in order to support political or cultural interests that run against social and environmental justice.

12. Public recognition of the limits of scientific knowledge (due to uncertainties, knowledge gaps, real world complexities) and of its unavoidable non-neutrality should also be an element of research ethics. Appropriate scientific humility creates room for decision makers to create 'prudent' policies and practices out of 'scientifically founded' insights (and to reconsider them

when prompted by new scientific or practical insights).

Conclusion: slow science favours independent and critical inquiry

School (scholè) means free time, as opposed to 'busy-ness', to business (a-scholè). Research entities with a mandate of public knowledge production should aim at becoming universal, inclusive places, where critical debate fosters social, political, cultural, economic and environmental awareness. Science, education and research are too important, maybe especially at this moment in history, to privatise them - for the problems are huge and the stakes high. Independent science, then, should not be confused with indifferent science.

Slow science does not need grounds protected from the noise of the busy world. It needs to be protected from the rush for the fast, generally undemocratic solutions as promoted by the knowledge economy. It needs time to craft both questions and answers in demanding co-productive relation with people concerned by those questions and answers. The highest aim of scientific research and education should be and remain, to ask often difficult questions and to form critical, creative and committed people.

Science, education and research are and should remain part of the commons; exclusionary production and appropriation of knowledge is irresponsible and devastating. Or put positively: the democratisation of knowledge is imperative. We (therefore) believe mankind needs slow science, we believe (even more so) that the planet needs slow science, and finally (of utmost importance) we believe the slow science movement needs you.