

Isabelle Stengers

Another Science is Possible

A Manifesto for Slow Science



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Isabelle Stengers

Translated by Stephen Muecke

polity

First published in French (excluding Chapter 4) as *Une autre science est possible! Manifeste pour un ralentissement des sciences* © Éditions La Découverte, Paris, France, 2013

French text of Chapter 4 © Isabelle Stengers

This English edition © Polity Press, 2018

Polity Press
65 Bridge Street
Cambridge CB2 1UR, UK

Polity Press
101 Station Landing, Suite 300
Medford, MA 02155, USA

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ISBN-13: 978-1-5095-2180-7

ISBN-13: 978-1-5095-2181-4 (pb)

A catalogue record for this book is available from the British Library.

Library of Congress Cataloging-in-Publication Data

Names: Stengers, Isabelle, author.

Title: Another science is possible : a manifesto for slow science / Isabelle Stengers.

Other titles: Autre science est possible! English

Description: English edition. | Cambridge, UK : Polity, [2017] | Includes bibliographical references.

Identifiers: LCCN 2017026397 (print) | LCCN 2017027589 (ebook) | ISBN 9781509521838 (Mobi) | ISBN 9781509521845 (Epub) | ISBN 9781509521807 (hardback) | ISBN 9781509521814 (pbk.)

Subjects: LCSH: Research--Social aspects. | Science--Social aspects. | Science--Philosophy.

Classification: LCC Q180.A1 (ebook) | LCC Q180.A1 S73513 2017 (print) | DDC 501--dc23

LC record available at <https://lcn.loc.gov/2017026397>

Typeset in 11 on 14 pt Sabon by Servis Filmsetting Ltd, Stockport, Cheshire
Printed and bound in the United Kingdom by Clays Ltd, St Ives PLC

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For the GECO.
For Serge Gutwirth
For all those who allowed me
to think that this is not simply utopian.

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I

Towards a Public Intelligence of the Sciences

Should ‘the public’ ‘understand’ the sciences?

Our Anglophone friends speak of the ‘public understanding of science’.¹ But what is meant by ‘understand’ here? Many people think each citizen should have the basic ‘scientific equipment’ (or literacy) necessary to understand the world we live in, and especially to accept the legitimacy of the transformations of the world that the sciences bring about. In fact, when the public begins to resist an innovation that scientists have backed, as notably in the case of GMOs, the usual diagnosis points to the lack of such understanding. Thus, the public apparently fails to understand that the genetic modification of plants is not ‘essentially’ different from what farmers have been doing for millennia, but is just faster and more effective. Others say that the methods that make for ‘scientificity’ have to be understood first, and that the public supposedly mixes up ‘facts’ and ‘values’ because it doesn’t understand that scientists are free not

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to ask certain questions. Of course, it is not a matter of denying citizens the right to accept or reject an innovation, but they should do so only on the basis of solid reasons, and not confuse scientific facts with their own convictions or values. The need for an apprenticeship in the sciences, it is argued, is founded on the fact that close observation, the formulation of hypotheses and their verification or refutation, form the basis not only for the construction of scientific knowledge but for all rational procedures. The sciences are therefore a model that every citizen should follow in their daily lives.

Such arguments are used today to justify a veritable ‘order word’² coming from public authorities when faced with a somewhat suspicious citizenry. If the latter are sceptical about the benefits the sciences bring to society, the response will be: ‘The public and its science have to understand each other.’ The possessive ‘its’ implies what standard science lessons in school try to get across: scientific reasoning belongs by right to all, in the sense that, confronted with the same ‘facts’ as Galileo or Maxwell, each of us could have drawn the same conclusions.

Of course, anyone with even a minimal exposure to the history of science, or to the sciences themselves ‘as they are made’, can easily conclude that the anonymous rational being drawing these ‘same conclusions’ is just the correlate of the ‘rational reconstruction’ of the situation, from which any reason for hesitation has been purged, and where the facts literally ‘shout out’ the conclusion they lead to with all the authority one could wish for.

In any event, laboratory conditions, reconstructed or not, have very little to do with those situations we are

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confronted with as citizens. For the latter, I would use Bruno Latour's felicitous phrase, 'matters of concern', which, in opposition to what are presented as 'matters of fact', insists that we think, hesitate, imagine and take sides. 'Concern' happily incorporates the notions of pre-occupation and choice, but also the idea that there are situations that concern us before they become objects of preoccupation or choice, situations which, in order to be appropriately characterised, demand that 'we feel concerned'. We should not talk about these situations being 'politicised', as too many scientists complain. They are a long way from being occasions for the more or less arbitrary or contingent expression of political engagement; rather, what they require is the power to make people think about what concerns them, and to refuse any appeal to '*matters of fact*' that would bring about a consensus. If there is a question to be asked, then, it is first of all how such situations have so often come to be separated from this very same power, which they require.

To return to GMOs, they constitute a quite different 'matter of concern' from laboratory GMOs defined in terms of the preoccupations of biologists working away in well-monitored spaces. GMOs cultivated across thousands of hectares raise questions to do with genetic transfer and pesticide-resistant insects, questions that can't be raised at the level of the laboratory, not to mention issues such as patent applications for modified plants, the reduction (already critical) of biodiversity, or the runaway use of pesticides and fertilizer.

The essential thing with 'matters of concern' is to get rid of the idea that there is a single 'right answer' and instead to put what are often difficult choices on

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the table, necessitating a process of hesitation, concentration and attentive scrutiny – and this despite the complaints of the entrepreneurs, for whom time is money and who demand that everything that is not prohibited be allowed. Then there is the propaganda, often in conjunction with scientific expertise, that all too frequently presents an innovation as ‘the’ correct solution ‘in the name of science’. This is why I would propose, in place of the notion of understanding, a ‘public intelligence’ [*intelligence publique*] of the sciences, involving the creation of intelligent relationships not just with scientific outcomes, but with scientists themselves.

What should the public understand?

When we speak of public intelligence, we have to emphasise first of all that it is not a matter of activists denouncing, as enemy number one, those biologists who have presented GMOs as ‘the’ rational and objective solution to the problem of world hunger. Rather, if a public intelligence is necessary, it essentially has to do with the very fact that those scientists were able to take this kind of position without a care in the world. If we put to one side hypotheses about dishonesty or conflicts of interest, then the question becomes one of understanding how the training and practice of researchers can lead to such arrogant and naive forms of communication, completely devoid of the critical thinking they so often boast about. How can one explain also the failure of the scientific community to publicly express outrage over this abuse of authority?

Quite the opposite occurred, it seems. Consider this extract from the summary report for the *États généraux*

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de la recherche held in 2004, in which researchers told the public what they should be understanding:

Citizens expect solutions from science for all sorts of social problems: unemployment, depleted oil reserves, pollution, cancer . . . the path that leads to the answers to these questions is not as direct as a programmatic vision of research would have us believe . . . Science can only function by dealing with its own problems in its own way, shielded from urgency and from the distortions inherent in economic and social contingencies.³

This quotation comes from a collective report, not the wild imagination of some individual. Its authors not only attribute to citizens the belief that science can solve problems like unemployment, they too seem to agree with this belief. Apparently, science can solve problems like this, but only if it is allowed the freedom to formulate its own questions, shielded from the ‘distortions’ said to be ‘inherent’ in ‘contingent’ economic and social preoccupations. In other words, authentic scientific solutions transcend such contingencies, and thus can ignore them (just as those biologists cheerleading for GMOs have ignored the economic and social dimensions of world hunger).

In short, what I have dubbed ‘matters of concern’ are characterised as ‘distortions’ in this account, while the solution that ‘science’ comes up with is identified as an answer to a problem that has at last been well-formulated. It follows that citizens are right to be trusting, but they have to know how to wait, and understand that scientists owe it to themselves to remain deaf to any noisy or anxious demands.

In fact, in 2004, the researchers did not address

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citizens, but went over their heads to the public authorities in charge of the politics of science, on the occasion of its redefinition in the terms of the ‘knowledge economy’. In their complaint they took up the hackneyed theme of the goose that lays the golden egg – stand back, keep it well fed, and don’t ask difficult questions, otherwise you will kill it and there will be no more eggs. Of course, it is not the business of the goose to wonder for whom her eggs are golden, and the generally beneficial character of scientific progress is taken for granted. The small question as to why this progress may today be associated with ‘unsustainable development’ is not asked.

I don’t think that scientists are ‘naive’, like the goose whose egg we remove from under it in order to give it a new value for the sake of humankind. They know perfectly well how to attract the interest of those capable of turning their results into gold. But they also know that the knowledge economy marks the end of the compromise that guaranteed them a minimum of vital independence. They can’t, however, talk about that openly, because they fear that if the public were to become aware of the ways in which science ‘is made’, they would lose confidence and reduce scientific proposals to simple expressions of particular interests. ‘People’ must continue to believe in the fable of ‘free’ research, driven by curiosity alone towards the discovery of the mysteries of the world (the kind of candy that helps so many well-meaning scientists to set about seducing childish souls).

In short, scientists have good reason to be uneasy, but they can’t say so. They can no more denounce those who feed them than parents can argue in front of their children. Nothing should upset the confident

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belief in Science, nor should ‘people’ be urged to get involved in questions they are not, in any case, capable of understanding.

Sciences need connoisseurs

If public intelligence on scientific questions has any meaning, it is in relation to this type of systematic distancing. Scientific institutions, the State and industry all find their interests converging here. But we should not be naive about this either. We should not set up, in opposition to an infantile public in need of comfort, the figure of a thoughtful, reliable public capable of participating in the things that concern it. One initial way of not being naive is to remind oneself over and over, as the physicist Jean-Marc Lévy-Leblond has constantly done, that the question of being capable or not is equally relevant to scientists themselves. When he wrote ‘If scientism and irrationalism, traditional foes, are still going strong, it is because uncultivated science turns as easily into the cult of science as into occult science’,⁴ he was not just talking about the public, but also, perhaps above all, about scientists themselves. In other words, a public intelligence of science would involve an intelligent and lucid relationship to scientific claims, an intelligence that would concern the scientists as much as the ‘people’, since they are all vulnerable to the same temptation.

We know that what Lévy-Leblond calls scientific culture is not to be confused with some general scientific literacy – knowing ‘something’ about physical laws, atoms, DNA, etc. A cultivated science should produce not only specialists but also connoisseurs, as is the case

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in sport, music or software production, i.e., in domains where producers know that they have to take into account the existence of people who are able to evaluate the products, assess the kind of information they are given, discuss its relevance, and differentiate between mere propaganda and calculated risk. For specialists, the existence of such connoisseurs, or amateurs, creates a demanding environment, which obliges them to maintain a ‘cultivated’ relationship with whatever they are proposing – they know the danger of skipping over the weak points, because the people they are addressing will pay just as much attention to whatever is neglected or omitted as to what is asserted.

So let’s take up Lévy-Leblond’s clarion call, ‘There are no amateurs of science’, because it throws new light on the question of the public intelligence of science. It is not a matter of asking the general question, ‘Does the public have the capacity?’, but one of asserting that it doesn’t have the *means* to be capable. The ‘indifferent confidence’ of the public (that the scientists feel they have to protect against doubt) betrays above all the absence of demanding connoisseurs likely to hold scientists to the task of taking care when making normative judgements about what does or does not matter, or of presenting their results in a lucid manner that actively situates them in relation to the questions they really can answer, rather than as a response to whatever is the object of a more general interest. Had such an environment existed in 2004, the researchers would have thought twice before writing what they did.

It goes without saying that this is not a public where everyone would become a ‘connoisseur’ in every scientific field, a kind of generalised ‘*amatorat*’, or group