

# The Doctorate Must Remain a Hard Currency



The Guttenberg case and subsequent allegations of plagiarism against German politicians such as Silvia Koch-Mehrin and Jorgo Chatzimarkakis do little to enhance the value of science in our society. The doctoral degree, which should be a strong currency, has thus come under pressure. At least some sections of the public are left with the impression that copying the work of another is a mere peccadillo en route to a desirable title. Even though the true figure outshone by these prominent cases may be much higher, allegations like these are in no way applicable to the vast majority of scientists. I refer of course to those who hope, through their scientific work, to contribute to the advancement of knowledge, and who rightly object to the shadow of collective suspicion cast by individual cases.

At the Max Planck Society alone, some 5,000 junior scientists are currently working for their doctorates. These are young

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The title has substance only when it is based on serious research

men and women from all parts of the world who devote years of effort to their studies at one of the 80 Max Planck Institutes or within the network of 63 International Max Planck Research Schools. They trace the origins of the universe, seek out hidden nanostructures in cells, analyze the anatomy depicted in the works of Leonardo da Vinci – wrestling with themselves in pursuit of knowledge. The goal of every dissertation is to put this effort down on paper. That is what makes the doctoral degree a reliable currency.

The route to a doctorate may vary – even conducting research when the working day is done is possible. It is hard work, and even one successful career in life is a great achievement in itself. Anyone who competes in the triathlon of family, science and a political or business career, coping through it all with fair play right down to the last footnote, deserves the greatest respect. But when the rules are flouted because a doctorate is intended solely as a shiny badge, the candidate deserves to be ejected from the playing field of science and from politics. It is, in the end, a matter of truth and honesty.

Nevertheless, we should regard the Guttenberg case and the other instances of plagiarism as an opportunity. They prove that a doctorate can have substance as the central currency of science only when it is based on serious research – and besides independence, that takes, above all, time. In a world that seems to be spinning faster and faster through the speed of the Internet and the smartphone, time, above all, is becoming a scarce commodity. Because more can be accomplished at an ever faster rate, expectations rise accordingly. Science must address these expectations – but attention to detail and a commitment to thoroughness are ill-equipped to keep pace when the Internet, in particular, accelerates the media.

Of course, digital communication and the ability to exchange ideas in seconds are also a blessing for research – particularly in an organization such as the Max Planck Society, which is represented and networked worldwide. With a few mouse clicks, the discoveries made by international research teams can be dispatched around the world. Cooperation that was once inconceivable is now a possibility. Databases offer access to ever more extensive funds of knowledge. The fact that “copy and paste” also invites plagiarism is a sad but simple truth. This

brings us to the heart of the debate about these affairs: the technical facilities available, whether to detect plagiarism or to commit it, and the trend toward speed render it essential to embed agreed standards more firmly into day-to-day scientific life.

Even though we cannot exclude the possibility that researchers in our ranks may simply appropriate the findings of another,

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### The call for tighter rules is natural

we do have a series of precautions anchored in our practices to counter this. First of all, there is the quality of training we offer: our graduate students have three years in which to complete their doctorates. They take part in the research conducted at a Max Planck Institute and, at the same time, are integrated into a university. This generally results in excellent supervision. Our International Max Planck Research Schools in particular offer structured programs for young scientists. They benefit from an extensive range of courses in which practice and recording of science – in writing – plays an ever greater role. We may say that, over ten years, the principle of the International Max Planck Research Schools has become a model for success. Surveys confirm this: almost three-quarters of the Max Planck Society's doctoral students describe themselves as very satisfied with the support and supervision they receive.

But these excellent conditions would be of no avail if the light of criticism didn't still burn at every institute. In accordance with the Rules of Good Scientific Practice laid down by the Senate of the Max Planck Society, we promote scientific integrity and encourage open dialog. Clearly, falsifying the

results of research or plagiarizing the work of others is not something to be made light of. It strikes at the heart of scientific endeavor. To supervise doctoral candidates is to accept a very special duty to set an example. Furthermore, there is an ombudsperson at every scientific facility of the Max Planck Society. These persons occupy a position of trust that not only obliges them to investigate abuses, but also explicitly requires them to shield whistleblowers beneath the mantle of anonymity.

The value of the doctoral degree can be strengthened only if we can establish a stable exchange rate nationwide for this currency of science. There must be high standards of quality regulating the exchange of dissertation for doctorate. Given the recent instances of plagiarism, the call for tighter rules is natural, and indeed justified. The matter is now subject to a debate in which the universities and the Scientific Council have a voice. Welcome, too, is the intention of the Alliance of German Science Organizations to collate and discuss the arguments at a conference in Berlin in late November. However, it is of at least equal importance that the existing rules of good scientific practice not merely be written down on paper, but also be communicated and lived up to at every university – starting from the basic studies. From their first seminar on, students develop their own internal, individual standard that remains with them for the rest of their scientific career. Also among the central keys to quality is the relationship between doctoral student and supervisor. Where cooperation is sufficiently close for a genuine scientific relationship to develop, this not only increases the chances of a better result, it also becomes morally far harder to pass off plagiarized work or falsified test results. Closer cooperation leads to a fairer exchange – as at the International Max Planck Research Schools or the gradu-

ate schools born of the Excellence Initiative. This is the right path to follow – not least because it favors quality over quantity.

Further, one should be prepared to accept binding responsibility for the quality of one's work. That is something that should be enshrined in the regulations for doctoral students, at least some parts of which should adhere to uniform standards. In contrast to past practice, there should be a ubiquitous duty to make a statutory declaration that the dissertation is genuinely one's own work, composed in good faith. To

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### One should accept responsibility for the quality of one's work

give such a declaration the force of law – as opposed to an oath sworn on one's honor – is to add the sanction of potential criminal consequences. It is not a question of casting suspicion upon science – on the contrary, it is an expression of the importance of a dissertation for society.

Only by taking steps like these can we strengthen the reputation of the doctorate as a trademark and ensure that it is recognized internationally as a guarantee of scientific standards. The bar must be set very high in order for the doctoral degree to be generally accepted as a certificate that attests to high-quality scientific work. Only in this way can it remain a source of trust and a means to what we seek: the advancement of knowledge.



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