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Plagiarism and Academic Integrity in Germany

Plagio e integridad académica en Alemania

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Abstract

Since the 18th century, Germany is perhaps one of the European countries that has had the most intense public debate on dishonest scientific and academic practices, particularly in relation to doctoral theses. This debate was particularly productive in the late 19th century, giving rise thereafter to the obligatory publication of all doctoral theses as a prior requisite before the title of Doctor can be conferred by any German university. This paper presents the most significant progress regarding plagiarism and academic integrity, especially since the 2011 scandal concerning plagiarism in the doctoral thesis of the Minister Guttenberg, such as with the creation of an effective collaborative investigation method for plagiarism in a scientific or academic work using the Internet and social media, which resulted in the «VroniPlag» Wiki. Also, the last two years have seen the definitive consolidation of the figure of «Ombudsman for Science» as a national instrument to prevent, manage and combat scientific dishonesty, as well as the publication in 2013 of a new version of the reference manual in this regard, «Safeguarding Good Scientific Practice». Finally, this paper analyses the conclusions of the German experience about academic ethics from a historical perspective, since its recent achievements and progress can serve as a reference for other European countries.

Resumen

Alemania es quizá uno de los países europeos que, ya desde el siglo XVIII, ha mantenido un debate público más intenso sobre prácticas científicas y académicas deshonestas, relacionadas especialmente con tesis doctorales. Este debate fue especialmente productivo a finales del siglo XIX, dando lugar desde entonces, para evitar estas prácticas inaceptables, a la obligatoriedad de publicar todas las tesis doctorales, como requisito previo a la expedición del título de doctor por cualquier universidad alemana. Este trabajo analiza los avances más importantes en plagio e integridad académica en Alemania, especialmente después del escándalo surgido en 2011 a raíz del plagio de la tesis doctoral del Ministro de Defensa Guttenberg, como son la creación de una eficaz metodología colaborativa de investigación del plagio en trabajos científicos o académicos utilizando Internet y las redes sociales, materializada en la Wiki «VroniPlag». También se describe someramente en este trabajo la consolidación definitiva de la figura del «Defensor de la Ciencia», como instrumento de ámbito nacional para prevenir, gestionar y combatir la deshonestidad científica, aparte de la publicación en 2013 de una nueva versión del manual de referencia al respecto (Sicherung guter wissenschaftlicher Praxis). Por último se analizan las conclusiones de la experiencia alemana relacionada con la ética académica, también desde una perspectiva histórica, pues sus recientes logros y avances pueden servir de referencia a otros países europeos.



Keywords / Palabras clave

Academic plagiarism, academic integrity, ombudsman, intellectual property, educational software, wikis, ethics, social networks.

Plagio académico, integridad académica, defensor, propiedad intelectual, software educativo, wikis, ética, redes sociales.

1. Introduction

In Germany there has been a constant reflection on academic plagiarism and other dishonest research practices since the late 19th century (Schwinges, 2007). However, 2011 became a landmark year with the appearance of an extensive public debate as a consequence of the case of the doctoral thesis by the German Defence Minister, Karl-Theodor zu Guttenberg, who eventually had to resign. Aside from the numerous cases detected in academic work since 2011, several initiatives have come about in parallel that have enriched the debate on academic plagiarism, for example, the development of a consolidated cooperative textual research methodology using a specific Wiki called «VroniPlag» (<http://goo.gl/JZOSKZ>), making Germany one of the most advanced European countries when it comes to combating these practices.

This article essentially pursues two objectives. Firstly, we propose analysing the German experience of plagiarism, which has been heavily influenced in recent years by social media, and we also consider the historical perspective in order to better understand specific cases of recent years. Secondly, we want to analyse the most significant progress achieved in Germany to define, prevent, manage and pursue academic and research dishonesty –especially plagiarism– that has occurred historically, always as a consequence of scandalous cases.

2. Definition of plagiarism (Plagiat)

The first difficulty we encounter when it comes to discussing plagiarism is reaching a consensus with regard to its definition. We can find at least three different versions: what it means from a strictly legal point of view, its colloquial use as a synonym of «action of copying» and finally, plagiarism from an academic perspective. We will analyse these different meanings according to the ideas of Weber-Wulff (2014), Rommel (2011) and Weberling (2015), among others.

2.1. The legal arena

The term plagiarism (Plagiat) is never literally cited in the German Penal Code, since jurists deem it to be a colloquial term to refer to a particular case of copyright infringement considered in Article 23 of the German Intellectual Property Act (Urheberrechtsgesetz), which states that «preparations or other types of transformations of a work can only be published or used with the permission of the original creator of the prepared or transformed work»¹ (Rehbinder & Peukert, 2015; Ruipérez, 2010). Furthermore, according to Article 97, when a person consciously appropriates the authorship of a thought belonging to a third party, thereby infringing existing copyright or exploitation rights, this is unlawful plagiarism that grants the right to compensation (Rehbinder & Peukert, 2015). Therefore, in order to talk of unlawful plagiarism in the German legal sense, the existence of recognised copyright of the original work has to converge with the intention to deceive (Dreier & Ohly, 2013; Kastner, 1983; Waiblinger, 2012).

The existence of the copyright or exploitation rights of the original work is a clearly objective element. Therefore, if an author literally reproduces text that lacks any legal protection, we could not legally talk of plagiarism, since there would be no infringement of any third party rights. However, it could be said to be academic plagiarism, as we will explain in the following sections (Dreier & Ohly, 2013). In addition, if an author cites a third party in accordance with the academic reference regulations in his area of knowledge, we could not talk about academic plagiarism, but, in the end, we



could talk of an unlawful event from a legal point of view if it was, for example, a very extensive and unjustified citation in its own context. This could be an infringement of the citation right considered in Article 51 of the German Intellectual Property Law (Rehbinder & Peukert, 2015).

The intention to deceive and the knowledge of the original work is a subjective element and can, therefore, be difficult to prove. In order for unlawful plagiarism to be attributed to a person, the said person has to have acted consciously, and it is necessary to prove the express premeditation or intention of the deceit. For example, if several paragraphs originally written by a third party are literally reproduced without citing the aforementioned third party, and without using quotation marks, this would be evident proof of the will to commit fraud. The intention to deceive would also be proven if, for example, an author commits the same error as a specific publication upon citing an original source, since it can be inferred that the said original source was not consulted, but rather that it was copied from the publication that was expressly not mentioned, with the original misprint included (Weberling, 2015). However, the mere fact that a thought or idea belonging to a third party is reproduced in a written work does not necessarily imply unlawful plagiarism, since it may have been a casual reproduction that was done unconsciously. From a German legal point of view, this would not be plagiarism, but rather a «double creation» or «Doppelschöpfung» phenomenon, according to German legal terminology: two authors casually write about the same thought or idea without either of them being aware of the other (Braun, 2015).

Given that we are only referring to the German context, we will not compare it to the Spanish context, in which the legal definition of plagiarism is different from the one discussed here (Castán, 2009; Ortega, 2015; Ruipérez, 2009; Temiño, 2015).

2.2. Colloquial use

The term for plagiarism in German, «Plagiat», comes from the Latin word «plagium» (theft of slaves, in turn related to the Greek form πλάγιος, deceitful). It originally means buying a free person as if he were a slave, and holding him as such. There appears to be a reference in the late 19th century Grimm Brothers' dictionary (Grimm & Grimm, 1999), understood only in the sense of «literary theft» (literarischer Diebstahl). Subsequently, the German Duden (2009) dictionary offers a more long-winded definition, which is the most extensive in the colloquial use of the term, and whose entry mentions that it is about the «improper appropriation of thoughts, ideas or similar of a third person in the artistic or research, and its publication. Theft of intellectual property; [legal language] intellectual theft, forgery».

2.3. The academic world

Academic plagiarism (akademisches Plagiat) in the German research arena has certain similarities with the more extensive meaning in the international community. Therefore, the definition of Fishman (2009) is often cited: «Plagiarism occurs when someone 1. Uses words, ideas, or work products. 2. Attributable to another identifiable person or source. 3. Without attributing the work to the source from which it was obtained. 4. In a situation in which there is a legitimate expectation of original authorship. 5. In order to obtain some benefit, credit, or gain which need not be monetary». Therefore, it is a phenomenon with very specific characteristics. Firstly, reproducing someone else's text without quotation marks can be deemed academic plagiarism, as well as when any kind of periphrasis based on an original that is not cited is used. Secondly, plagiarism is committed when the primary author is not sufficiently identified—in other words, when a direct attribution that would be expected by the reader does not appear. Thus, for example, when ideas from a work have been used, it would not be sufficient to include such work in the bibliography as another reference, but rather it would be necessary to always cite it on whichever pages the singular thoughts or ideas are being used. Lastly, it is not necessary for there to be financial gain, since the intention to obtain public recognition for apparently being the author of an idea or thought of a third party not named or insufficiently cited would be sufficient.



After the extensive debate that came about after the 2011 scandals, the concept of academic plagiarism currently dominates the German arena (Weber-Wulff, 2014). It is no longer deemed essential for the subjective intention to deceive –which is always difficult to prove– to exist in order to qualify an act as academic plagiarism, but it would be necessary to argue this in order to deal with the case from a legal point of view.

This view is already documented by Englisch (1933) who, after a detailed study of plagiarism cases, concludes his work with the following definition (Bluhm, 2014; Fishman, 2009): «plagiarism is, therefore, the action of extracting, for one's own work, at the discretion of a said author or artist, from a not insignificant idea of a third party, with the intention of erasing the origin of this forced loan via the respective transformation, thereby giving the reader or viewer the impression of an own creation».

3. Doctoral theses and dishonest conduct

In Germany, at least since the 16th century, the title of Doctor has been considered by society to be almost equal to a noble title. From a legal point of view, this is not so, since the Chamber for Contentious Administrative Proceedings of the German High Court explicitly denied this in a sentence on 24 October 1957. Furthermore, it clarified that it also did not form part of the particulars of an individual, despite the fact that the title of Doctor is explicitly mentioned on the German ID card, passport and driving licence. Ultimately, it is an academic title, perceived by society as a title granting high social prestige (Weber-Wulff, 2014; cp. Herb & Kovac, 2012; Höhner, 2014; Walger, 2014).

This perceived elevated status has put great pressure on any German with a public profile to achieve such a title, even if obtaining it means using ethically questionable procedures. Examples of this include the doctoral theses of Marx, Goethe and Einstein, to name just the more important cases, who, thanks to their social influence –and by possibly making a payment– successfully obtained the title of Doctor from certain universities for papers of little or almost zero research significance and, in some cases, with rather opaque procedures.

The doctoral thesis of the already then famous writer Johann Wolfgang von Goethe (1749-1832) was reduced to a manuscript of 12 pages entitled «Positiones Juris», and consisted of only 56 aphorisms in Latin, written with the help of a «repeater» or preparer, a euphemistic name for which today we would use the term «ghostwriter» (Groh, 2012; Bambach, 2013). After previously submitting another unsatisfactory doctoral thesis that was rejected, on 6 August 1771, Goethe publically defended his thesis at the Faculty of Law of the University of Strasbourg and was awarded the unusual qualification of «cum applausu» (Cross & Lühmann, 1971).

This eagerness of the German bourgeoisie to obtain a doctorate in order to always be cited with the title of Doctor before their surname continued to a large extent in the 19th century, when some universities with little prestige, such as those of Gießen, Jena and Rostock, came to offer titles «in absentia»: the candidate only had to pay an amount of money and did not even have to transfer to said university. Such is the case, for example, of the Berlin student Karl Marx, who in 1841 obtained the title of Doctor from the Faculty of Philosophy of the University of Jena that he never visited, through an agreement of which only a few fragments remain today (Rasche, 2013; Cross & Lühmann, 1971).

The fact that at a small university such as Jena, almost three times more students were awarded a doctorate between 1830 and 1870 than at the Universities of Berlin and Munich combined led Mommsen to start a great campaign in 1876 against gaining a doctorate in absentia, with the intention of ending the purchase of titles by these «pseudo doctors» (Schwinges, 2007).

One of the most effective measures was the obligation to publish hard copies of all doctoral theses, a requirement that remains today and is mandatory in order to definitively issue the title of Doctor at any German university, even though the procedure is now becoming more flexible in order to also permit, as an alternative, the possibility of publishing online, but with extensive diffusion always guaranteed (Rasche, 2007 and 2013).



Despite the restrictive measures that were promoted, at the initiative of Mommsen, at universities dependent on the then Prussian parliament, in 1905 Albert Einstein was still permitted to obtain the title of Doctor at the University of Zurich with a thesis consisting of 17 pages. He had had a previous, even shorter, thesis rejected and was reproached because the final version of his academic work included quite a lot of errors in the mathematical formulae (Bambach, 2013).

Nevertheless, despite these transparency initiatives, social pressure to achieve a doctorate continued in the 20th century, so much so that the irregular procedures to obtain the longed-for title of Doctor with little effort evolved, giving rise to authors resorting, for example, to plagiarism. The first significant case was that of Friedrich Wilhelm Prinz von Preußen, Prince of Prussia and great grandson of the last German Kaiser, who obtained his doctorate at the University of Erlangen in 1971 with a thesis on contemporary history. The obligatory paper publication meant that it was available for consultation and an employee at Marburg library specialising in the same subject noticed that some passages were familiar. When he made the first comparison, he quickly detected clumsy plagiarism, since almost two-thirds of the 1971 thesis was a literal copy of three different books (published in 1939, 1945 and 1968) that were not cited anywhere (Der Spiegel, 1973).

In this case, it was his doctoral supervisor who, after an exhaustive study and in accordance with the 1931 regulatory law on academic titles, proposed in 1973 that the University of Erlangen strip the Prince of Prussia of his title of Doctor. This disciplinary measure was not necessary in the end, since the author himself asked the university if he could «voluntarily» renounce his title of Doctor (Weber-Wulff, 2014).

3.1. The plagiarism of Karl-Theodor zu Guttenberg and the importance of social media

The plagiarism case that had the greatest media impact occurred in 2011. It was also a doctoral thesis and written by a member of the German nobility: the then German Defence Minister, Karl-Theodor zu Guttenberg, who gained his doctorate from the Faculty of Law of the University of Bayreuth.

The scandal was triggered by a report on 16 February 2011 published by *Süddeutsche Zeitung*, announcing the possibility that the then Defence Minister may have committed plagiarism in his doctoral thesis. A Professor of Public Law at the University of Bremen, Fischer-Lescano, informed the newspaper of these facts after writing a review of Guttenberg's thesis for the magazine *Kritische Justiz*, in which he detected that 23 long paragraphs not in quotation marks from the said thesis were copied literally from other publications that he documented in his review (Fischer-Lescano, 2011). This news, despite Guttenberg's emphatic denial, immediately went viral thanks to the conclusive proof provided by *Süddeutsche Zeitung*. The immense media exposure caused different events to occur that precipitated the resignation of the Defence Minister within a few short days, who, before resigning and to minimise the damage, asked the University of Bayreuth if he could «voluntarily» renounce his title of Doctor. In this context, the importance of social media should be stressed, since just one day after the publication of the aforementioned report, a Wiki called *GuttenPlag* appeared, which made it possible for much additional evidence of said plagiarism to be collaboratively and openly documented in record time.

The result of this initiative was finalised approximately one month after an exhaustive documentation of all the plagiarised passages, and whose visual summary consisted of a multicolour barcode that has since become the icon of all the plagiarism cases subsequently investigated (figure 1).



1218 Plagiatsfragmente aus 135 Quellen
auf 371 von 393 Seiten (94.4%)
in 10421 plagiierten Zeilen (63.8%)

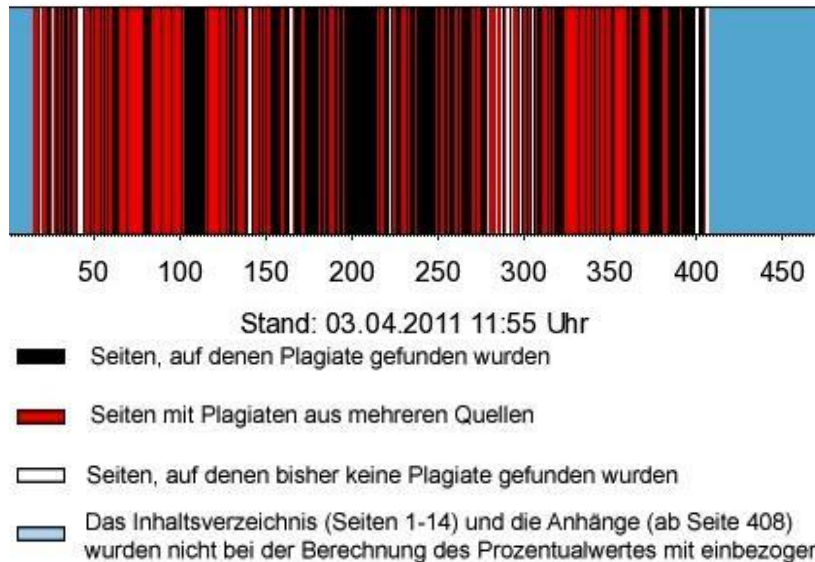


Figure 1: Barcode resulting from the investigation of plagiarism in the doctoral thesis of Karl-Theodor zu Guttenberg (GuttenPlag Wiki) (<http://goo.gl/dtspm>) (2015-11-21).

Title: 1,218 passages of plagiarised text from 135 sources in 371 of 393 pages (94.4%), and 10,421 plagiarised lines (63.8%). Date: 2011-04-03, 11:55 am.

Barcode colours: black (pages where plagiarised text fragments were found); red (pages where plagiarised text fragments from different sources were found); white (pages where so far no plagiarised text fragments were found); blue (index, pages 1 to 14, and annexes, from page 408, were not included in the calculation of the percentage values).

The horizontal axis refers to the 475 pages of Guttenberg's thesis and tells us that a total of 1,218 textual fragments plagiarised from 135 different sources were documented (some of which were not even cited or were insufficiently referenced) on 371 pages of a total of 393 investigated pages; in other words, in 94.4% of the pages of his work, excluding the 14 pages of the index and the 67 pages of annexes—equivalent to 10,421 lines of plagiarised text, that is, 63.8% of the total.

The GuttenPlag experience gave rise to the drawing up of a new methodology for the documentation of plagiarised textual fragments that has since served as a reference for the investigation of subsequent plagiarism cases in a new Wiki called VroniPlag (Weber-Wulff, 2012).

The coloured code used in the first Wiki was later taken on by the second Wiki with some improvements, to a large extent making it possible for any person to quickly have an idea of the extremely high degree of plagiarised fragments found in the thesis being studied. Since academic plagiarism was evident from the start, the Prosecutor General of the German State opened an office to investigate presumed infringements of the Intellectual Property Act. The investigation concluded two months later, stating that of all the plagiarised fragments, only 23 were truly unlawfully plagiarised, since they were original texts protected by law and because the intention to defraud was also accredited. For this reason, the now former Minister and former Doctor Guttenberg reached an agreement with the prosecutor with regard to his punishment and ended up paying a generous donation to a foundation in order to suspend the criminal proceedings, since, according to the prosecutor, the financial harm caused to each of the plagiarised authors had been marginal (Weber-Wulff, 2014).

3.2. The VroniPlag Wiki



Barely one month after the appearance of the pioneering GuttenPlag, dedicated exclusively to the plagiarism in Guttenberg's doctoral thesis, a new Wiki came into being that was more generally dedicated to cases of plagiarism, in particular in doctoral theses, reaching a total of 154 documented cases in December 2015.

Weber-Wulff (2012) and Schmolke (2011) highlight the main features of this Wiki. The first thing to highlight is the anonymity of its contributors; the reports can be anonymous and usually are, in order to avoid personal reprisals. The important thing is the textual investigation of the academic work and not who the author of each contribution is. However, the anonymity of most of the contributions is one of the aspects most criticised by this Wiki's detractors, since it allows people who are not qualified in the research subject to report supposed textual parallelisms that might not in the end be qualified as plagiarism. In its defence, VroniPlag argues, in our opinion with sufficient grounds, that in order to search for these intertextual coincidences, it is not necessary to have a specific qualification related to the subject of the academic work being investigated.

Secondly, a significant number of plagiarised fragments must be found, so that for a certain academic work to be recognised as suspicious, there must initially be a significant number of plagiarised passages.

Thirdly, visual presentation is encouraged. The systematic use of different colours when it comes to marking textual parallelisms is a general resource. For example, the following Figure 2 shows this information on the 1990 doctoral thesis defended by the current Defence Minister, Ursula von der Leyen, which is also being investigated.

Untersuchte Arbeit: Seite: 13, Zeilen: 8-21	Quelle: Schwarz 1963 Seite(n): 1, Zeilen: 2-15
1930 wurde von TILLET und FRANCIS im Serum von Kranken mit Pneumokokken-Infektionen eine Präzipitationsreaktion mit dem C-Polysaccharid von Pneumokokken entdeckt. Diese Reaktion war nur in der akuten Phase der Infektion nachweisbar, aber nicht mehr nach deren Abklingen (TILLET und FRANCIS 1930). Der Zeitpunkt von Auftreten und Verschwinden der Präzipitationsreaktion unterschied diese von vornherein von Antigen-Antikörperreaktionen (TILLET et al. 1930). Nachdem ABERNETHY und AVERY 1941 die Proteinnatur der mit dem C-Polysaccharid reagierenden Substanz entdeckten, wurde diese allgemein C-reaktives Protein genannt. ASH hatte schon 1933 beobachtet, daß diese Reaktion mit dem C-Polysaccharid nicht nur im Serum von Patienten mit Pneumokokkeninfektionen nachweisbar war, sondern auch bei anderen Infektionen (SCHWARZ 1963). In der Folgezeit sind diese Beobachtungen allgemein bestätigt worden, und es gelang, das C-reaktive Protein bei einer Vielzahl von verschiedenen Krankheiten nachzuweisen, welche ätiologisch sicher nichts gemeinsam hatten.	Von TILLET und FRANCIS (1930) wurde im Serum von Kranken mit Pneumokokken-Infektionen eine Präzipitationsreaktion mit dem somatischen C-Polysaccharid von Pneumokokken entdeckt. Diese Reaktion war nur während der akuten Phase der Pneumokokken-Infektion nachweisbar, aber nicht mehr nach deren Abklingen. Zeitpunkt von Auftreten und Verschwinden der Präzipitationsreaktion unterschied diese von vornherein von Antigen-Antikörper-Reaktionen. Nachdem ABERNETHY und AVERY (1941) die Proteinnatur der mit dem C-Polysaccharid reagierenden Substanz entdeckten, wurde diese allgemein C-reaktives Protein (CRP) genannt. ASH hatte schon 1933 beobachtet, daß die Reaktion mit C-Polysaccharid nicht nur im Serum von Patienten mit Pneumokokken-Infektionen nachweisbar ist, sondern auch bei anderen Infektionen, die nicht von Pneumokokken verursacht waren. In der Folgezeit sind diese Beobachtungen von ASH allgemein bestätigt worden, und es gelang, C-reaktives Protein bei einer Vielzahl von verschiedensten Erkrankungen nachzuweisen, die ätiologisch sicher nichts Gemeinsames hatten.

Figure 2: Textual parallelisms found on page 13 of the 1990 doctoral thesis submitted by Ursula von der Leyen (left) and an original publication from 1963 (right) (<http://goo.gl/ZVUXDb>) (2015-12-23).

The most characteristic feature of this visual presentation is the barcode used as the final summary (figure 3) inspired by the one used by GuttenPlag.

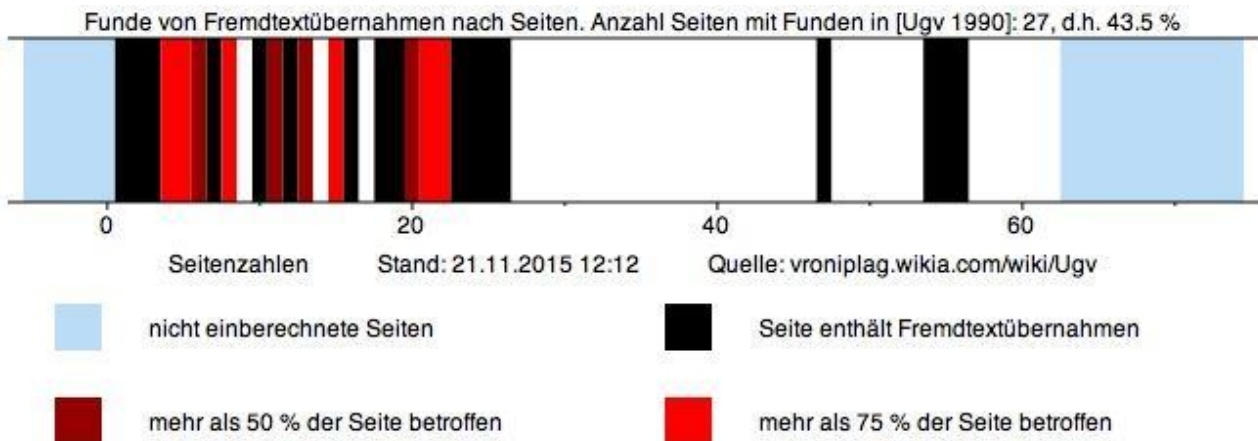


Figure 3: Barcode resulting from the investigation into plagiarism in the doctoral thesis of Ursula von der Leyen (<http://goo.gl/LY2Zvh>) (2015-11-21).

Title: Plagiarised passages of text according to page number. Total number of pages with plagiarised texts in Ursula Gertrud von der Leyen 1990: 27 (43.5%). Date: 2015/11/21, 12:12 am. Source: vroniplag.wikia.com/wiki/ugv.

Barcode colours: blue (pages not included in the calculations); black (page containing textual fragments of other sources); dark red (affects more than 50% of the page); light red (affects more than 75% of the page).

The absence of requests for disciplinary measures should also be highlighted; VroniPlag has never been understood as a platform that claims a certain disciplinary measure. Therefore, each university has the autonomy to undertake whatever initiatives it deems appropriate from this information. However, it is certain that the documented cases of plagiarism have exerted much pressure on the universities affected thereby to at least start an internal investigation. In fact, of the 154 academic works investigated up to December 2015, the universities had already stripped 22% of the authors of their respective academic title (Gärditz, 2014; Kingreen, 2015).

The number of investigated cases continues to grow, given that plagiarism in German doctoral theses has not stopped. For example, in 2013 the outgoing Education Minister, Annette Shavan, was stripped of her title of Doctor, obtained 33 years earlier by the University of Düsseldorf. The fact that academic plagiarism has not stopped has led the most important state body for research, Deutsche Forschungsgemeinschaft (DFG), to publically state that the liability of any author of an academic work be temporarily limited to a maximum of 10 years, thereby limiting the permanent legal insecurity of any German holder of a university degree, who can currently be required to be liable for life for his doctoral thesis (Löwer, 2015; Rieble, 2014; Deutsche Forschungsgemeinschaft DFG, 2013). Finally, we must highlight the consolidation of an advanced collaborative investigative methodology that is applied statistically in most new public plagiarism investigations.

4. Final considerations

The debate on academic and scientific ethics continues in Germany, and is usually linked to the public investigation of plagiarism in an academic work by a politician. Between 2011 and 2015, the German experience gave rise to some significant advances, the most important of which is the figure of the Research Ombudsman (Ombudsmann für die Wissenschaft), which has served as a catalyst for most initiatives. Since its beginnings in 1997, it has been a governing body that investigates reports of research malpractice, and has always been governed by the principle of transparency and strict confidentiality in all its arrangements, and also guaranteeing the anonymity of the reporter.

The Research Ombudsman has become the expert in matters of research and academic ethics in Germany, not only because of its effective management of conflicts, but also because of its extensive diffusion of a self-monitoring manual. According to the latest available data, in 2014 the Research Ombudsman received 63 reports, though only nine led to the opening of specific pro-



ceedings because the outcome would not have been satisfactory. Over half were related to evident topics of academic honesty: 32% were for authorship conflicts (usually due to the omission of some collaborator in works signed by the academic supervisor or project head), and 22% for plagiarism. The remaining reasons affected collateral research topics (labour conflicts, insufficient financing, discrepancies in research content, etc.), with the exception of 3% of reports received for falsifying data (Löwer, 2015).

Similarly, most universities have created their own Research Ombudsman office, which has given rise to the standardisation of criteria to define and pursue dishonest conduct. In our opinion, this is enormous progress, especially if we look at the situation in other European countries.

Another result of the German experience in recent years is that any author of a significant academic work (e.g. doctoral theses, dissertations, etc.) is generally obliged to include a simple declaration of authorship, assuring that the work submitted is exclusively his and that all the external assistance used is listed therein (see Figure 4). Therefore, in the event of plagiarism or any other ethically unacceptable event being subsequently detected, the university could proceed to instigate a disciplinary motion for intent to deceive, and could even strip the author of the academic title he obtained.

Erklärung

Ich versichere hiermit, daß ich die Arbeit selbständig angefertigt habe und keine anderen als die angegebenen Quellen und Hilfsmittel benutzt sowie die wörtlich oder inhaltlich übernommenen Stellen als solche kenntlich gemacht habe.

Figure 4: Obligatory template of declaration of doctoral thesis authorship at the University of Ulm (<https://goo.gl/yr6BQn>) (2015-12-25).

Translation: Declaration / I hereby declare that I have written the present thesis independently, without use of other resources than those indicated. I have marked passages included from other works, whether verbatim or in content, as such.

To conclude, we believe it is appropriate to cite another series of repercussions in Germany after the wave of plagiarism scandals started by the Guttenberg case in 2011, and that could serve as a reference for other countries.

Firstly, we must consider the overall use of antiplagiarism software to help facilitate the work of teachers in searching for fraudulent academic works (Mayer & Röhle, 2014). These programmes are perceived very positively by teachers, and as a mechanism to defend their own reputation, since the possible existence of presumed complicity between the supervisor and the author of the plagiarised academic work has often been suspected.

Secondly, proposals to change legislation are being drawn up in order that academic plagiarism be tackled in a specific way, including the introduction of a new research fraud offence (Wissenschaftsbetrug), making it compatible with new, more serious criteria (Goeckenjan, 2013; Linke, 2015).

Some are also calling for the model of some North American universities to be followed by establishing different gradations in the case of plagiarism, with different penalties according to the quantity and quality of plagiarised fragments. Lastly, the use of very exhaustive reference websites aimed at teachers and students is encouraged, such as that of the University of California San Diego (<http://goo.gl/Y7s0YW>) (Weber-Wulff, 2014).

The influence of the German model on tackling reprehensible ethical conduct in the academic arena in Europe is evident. For example, in 2008 Austria created the Austrian Agency for Research Integrity with objectives and procedures inspired by the German Research Ombudsman (Föger,



2015; Mayer, 2015). However, Spain, like other European countries such as France, Italy and Portugal, still lacks these national institutions that have already been introduced in other Central European countries. In the case of Spain, only the CSIC (National Research Council) currently forms part of the European Network of Research Integrity Offices (<http://goo.gl/5dioju>) created in 2008 at the initiative of the United Kingdom (Löwer, 2015).

Notes

¹ All the translations of documents originally written in German, or of terms in that language, are from the authors.

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