

The New York Times¹

August 13, 2010

In Harvard Lab Inquiry, a Raid and a 3-Year Wait

By NICHOLAS WADE

Marc Hauser's academic career was soaring when suddenly, three years ago, Harvard authorities raided his laboratory and confiscated computers and records.

Dr. Hauser continued to publish and lecture widely until last week, while all the time researchers at Harvard and elsewhere who knew of the raid kept waiting for the other shoe to drop.

In January this year, a faculty committee at last completed its report, said to contain eight charges against Dr. Hauser. But the report was kept secret and nothing changed until this month when someone showed The Boston Globe a letter about the investigation from Dr. Hauser to his faculty colleagues. Dr. Hauser's automated e-mail reply says he is "on leave, furiously writing a book."

Dr. Hauser has been one of Harvard's rising academic stars, with a public visibility approaching that of the psychologist Steven Pinker, whom he sometimes seemed to emulate. Dr. Hauser's early research work was in the field of animal communication. He then started throwing his net wider. He took up new research methods for exploring babies' thoughts and applied them to animals, showing that monkeys were capable of many cognitive feats thought unique to people.

Most researchers stick to their own disciplines, but Dr. Hauser was fearless in forming collaborations with leaders in other fields. He worked with the linguist Noam Chomsky, the brain scientist Antonio Damasio, the child psychologist Elizabeth Spelke and the primatologist Richard Wrangham.

Several of these collaborations concerned the nature of morality, a subject he had reason to weigh because of an experience that had saved his father's life. In his 2006 book "Moral Minds," Dr. Hauser recounts how his father, as a young man in Nazi-occupied France, was warned by a French girl that Nazis were coming to their village. The girl said that if he was Jewish he could hide at her house. Though reluctant to announce he was Jewish, he accepted her offer. "When the Nazis arrived and asked if they were hiding any Jews, the girl and her parents said 'No,' and, luckily, escaped further scrutiny," Dr. Hauser writes.

Dr. Hauser's wide-ranging interests and intellect made him a forceful writer and lecturer. But his skills as an experimentalist were not always unquestioned. In 1995, he published an article in the Proceedings of the National Academy of Sciences reporting that cotton-topped tamarins, the species of monkey he then worked with, could recognize themselves in the mirror.

Gordon G. Gallup, the psychologist who invented the mirror test and established that only humans, chimps and orangutans could recognize their own image, was skeptical of Dr. Hauser's result and asked to see videotapes of the experiment.

Dr. Hauser provided them. But "there wasn't even any suggestive evidence," said Dr. Gallup, who is at the State University of New York in Albany. "It was like a complete disconnect between what appeared in the paper and what I saw on the tapes." Dr. Hauser at first disputed Dr. Gallup's judgment but in 2001 reported that he had failed to replicate the earlier result.

Dr. Hauser, 50, was trained by two researchers renowned for the rigor of their field work on animal behavior, Robert Seyfarth and Dorothy Cheney of the University of Pennsylvania. "Marc

was our first graduate student,” Dr. Seyfarth said. “But many years ago, we decided that Marc’s way of doing things and ours were not really the same. We just differed about our approach to research.”

One reason, Dr. Seyfarth said, was that he and Dr. Cheney studied animals in natural conditions, where the pace of data collection is much slower, whereas Dr. Hauser had moved into studying captive animals.

The captive animals, a colony of some 40 cotton-topped tamarins, may have contributed to the difficulties in Dr. Hauser’s laboratory. It is difficult to get the tamarins to pay attention, especially after the monkeys get used to experimenters.

“With some of these methods it was never clear to me how one could obtain meaningful results,” said a person with experience in Dr. Hauser’s lab, who requested anonymity for fear of retaliation. “The monkeys were often either jumping around, or not moving at all, and you rarely got the sense of an unambiguous response.”

Other experimental problems have come to light with three articles investigated by the Harvard committee. In two, the supporting data did not exist. Dr. Hauser and a colleague repeated the experiments, and say they got the same results as published. In a third case, Dr. Hauser retracted an article published in the journal *Cognition* in 2002 but gave the editor no explanation of his reason for doing so.

Researchers have been calling for Harvard to provide some explanation of whatever problems were found in Dr. Hauser’s lab. If his fault was merely keeping bad records, his reputation may suffer no lasting damage. But if any data has been fabricated, a cloud will be cast over all or much of his work, and that of his many collaborators, leaving other researchers unsure as to which of his experiments can be relied on.

Whatever the problems in Dr. Hauser’s lab, they eventually led to an insurrection among his staff, said Michael Tomasello, a psychologist who is co-director of the Max Planck Institute for Evolutionary Anthropology in Leipzig, Germany, and shares Dr. Hauser’s interest in cognition and language.

“Three years ago,” Dr. Tomasello said, “when Marc was in Australia, the university came in and seized his hard drives and videos because some students in his lab said, ‘Enough is enough.’ They said this was a pattern and they had specific evidence.”

Harvard told the psychology department that its members could take no action against Dr. Hauser while the inquiry was in progress. “He’s been in slow-motion fall for the last three years, but it hasn’t slowed him down one bit,” Dr. Tomasello said. Then in January, the faculty committee “came back with eight counts, which I have from someone in authority who read the report,” he said.

Dr. Tomasello said his information came from a Harvard faculty member and from former students of Dr. Hauser.

After the report was completed in January, “Everyone waited to see what would happen, and nothing happened until just recently when Harvard retracted the paper in *Cognition*,” Dr. Tomasello said.

Asked about this account a Harvard spokesman, Jeff Neal, declined to comment, saying the university had to respect individuals’ privacy.

In a long interview in 2006 to discuss “Moral Minds,” Dr. Hauser said that when he informed his parents he wanted to be a biologist, his father, a physicist, told him, “That’s just because I’m a scientist.” He told his father no, it was because he wanted to have ideas and test them.

He studied vervet monkeys in Kenya with Dr. Seyfarth and Dr. Cheney, and then did postdoctoral work with Peter Marler, a pioneer in the field of animal communication. In a 2007 article in *Current Biology*, Dr. Hauser reflected on what he had learned from Dr. Marler.

“Only once can I recall Peter giving me an explicit bit of advice, and this is when my impulsivity was getting the best of me,” Dr. Hauser wrote. “Peter kindly told me to slow down, reflect more, and publish less.”

The Chronicle of Higher Education²

Thursday, August 19, 2010

Document Sheds Light on Investigation at Harvard

By Tom Bartlett

Ever since word got out that a prominent Harvard University researcher was on leave after an investigation into academic wrongdoing, a key question has remained unanswered: What, exactly, did he do?

The researcher himself, Marc D. Hauser, isn't talking. The usually quotable Mr. Hauser, a psychology professor and director of Harvard's Cognitive Evolution Laboratory, is the author of *Moral Minds: How Nature Designed Our Universal Sense of Right and Wrong* (Ecco, 2006) and is at work on a forthcoming book titled "Evilicious: Why We Evolved a Taste for Being Bad." He has been voted one of the university's most popular professors.

Harvard has also been taciturn. The public-affairs office did issue a brief written statement last week saying that the university "has taken steps to ensure that the scientific record is corrected in relation to three articles co-authored by Dr. Hauser." So far, Harvard officials haven't provided details about the problems with those papers. Were they merely errors or something worse?

An internal document, however, sheds light on what was going on in Mr. Hauser's lab. It tells the story of how research assistants became convinced that the professor was reporting bogus data and how he aggressively pushed back against those who questioned his findings or asked for verification.

A copy of the document was provided to The Chronicle by a former research assistant in the lab who has since left psychology. The document is the statement he gave to Harvard investigators in 2007.

The former research assistant, who provided the document on condition of anonymity, said his motivation in coming forward was to make it clear that it was solely Mr. Hauser who was responsible for the problems he observed. The former research assistant also hoped that more information might help other researchers make sense of the allegations.

It was one experiment in particular that led members of Mr. Hauser's lab to become suspicious of his research and, in the end, to report their concerns about the professor to Harvard administrators.

The experiment tested the ability of rhesus monkeys to recognize sound patterns. Researchers played a series of three tones (in a pattern like A-B-A) over a sound system. After establishing the pattern, they would vary it (for instance, A-B-B) and see whether the monkeys were aware of the change. If a monkey looked at the speaker, this was taken as an indication that a difference was noticed.

The method has been used in experiments on primates and human infants. Mr. Hauser has long worked on studies that seemed to show that primates, like rhesus monkeys or cotton-top tamarins, can recognize patterns as well as human infants do. Such pattern recognition is thought to be a component of language acquisition.

Researchers watched videotapes of the experiments and "coded" the results, meaning that they wrote down how the monkeys reacted. As was common practice, two researchers independently coded the results so that their findings could later be compared to eliminate errors or bias.

According to the document that was provided to The Chronicle, the experiment in question was coded by Mr. Hauser and a research assistant in his laboratory. A second research assistant was asked by Mr. Hauser to analyze the results. When the second research assistant analyzed the first research assistant's codes, he found that the monkeys didn't seem to notice the change in pattern. In fact, they looked at the speaker more often when the pattern was the same. In other words, the experiment was a bust.

But Mr. Hauser's coding showed something else entirely: He found that the monkeys did notice the change in pattern—and, according to his numbers, the results were statistically significant. If his coding was right, the experiment was a big success.

The second research assistant was bothered by the discrepancy. How could two researchers watching the same videotapes arrive at such different conclusions? He suggested to Mr. Hauser that a third researcher should code the results. In an e-mail message to Mr. Hauser, a copy of which was provided to The Chronicle, the research assistant who analyzed the numbers explained his concern. "I don't feel comfortable analyzing results/publishing data with that kind of skew until we can verify that with a third coder," he wrote.

A graduate student agreed with the research assistant and joined him in pressing Mr. Hauser to allow the results to be checked, the document given to The Chronicle indicates. But Mr. Hauser resisted, repeatedly arguing against having a third researcher code the videotapes and writing that they should simply go with the data as he had already coded it. After several back-and-forths, it became plain that the professor was annoyed.

"i am getting a bit pissed here," Mr. Hauser wrote in an e-mail to one research assistant. "there were no inconsistencies! let me repeat what happened. i coded everything. then [a research assistant] coded all the trials highlighted in yellow. we only had one trial that didn't agree. i then mistakenly told [another research assistant] to look at column B when he should have looked at column D. . . . we need to resolve this because i am not sure why we are going in circles."

The research assistant who analyzed the data and the graduate student decided to review the tapes themselves, without Mr. Hauser's permission, the document says. They each coded the results independently. Their findings concurred with the conclusion that the experiment had failed: The monkeys didn't appear to react to the change in patterns.

They then reviewed Mr. Hauser's coding and, according to the research assistant's statement, discovered that what he had written down bore little relation to what they had actually observed on the videotapes. He would, for instance, mark that a monkey had turned its head when the monkey didn't so much as flinch. It wasn't simply a case of differing interpretations, they believed: His data were just completely wrong.

As word of the problem with the experiment spread, several other lab members revealed they had had similar run-ins with Mr. Hauser, the former research assistant says. This wasn't the first time something like this had happened. There was, several researchers in the lab believed, a pattern in which Mr. Hauser reported false data and then insisted that it be used.

They brought their evidence to the university's ombudsman and, later, to the dean's office. This set in motion an investigation that would lead to Mr. Hauser's lab being raided by the university in the fall of 2007 to collect evidence. It wasn't until this year, however, that the investigation was completed. It found problems with at least three papers. Because Mr. Hauser has received federal grant money, the report has most likely been turned over to the Office of Research Integrity at the U.S. Department of Health and Human Services.

The research that was the catalyst for the inquiry ended up being tabled, but only after addi-

tional problems were found with the data. In a statement to Harvard officials in 2007, the research assistant who instigated what became a revolt among junior members of the lab, outlined his larger concerns: “The most disconcerting part of the whole experience to me was the feeling that Marc was using his position of authority to force us to accept sloppy (at best) science.”

The New York Times³

August 20, 2010

Harvard Finds Scientist Guilty of Misconduct

By NICHOLAS WADE

Harvard University said Friday that it had found a prominent researcher, Marc Hauser, “solely responsible for eight instances of scientific misconduct.

Hours later, Dr. Hauser, a rising star for his explorations into cognition and morality, made his first public statement since news of the inquiry emerged last week, telling The New York Times, “I acknowledge that I made some significant mistakes” and saying he was “deeply sorry for the problems this case had caused to my students, my colleagues and my university.”

Dr. Hauser is a leader in the field of animal and human cognition, and in 2006 wrote a well-received book, “Moral Minds: How Nature Designed Our Universal Sense of Right and Wrong.” Harvard’s findings against him, if sustained, may cast a shadow over the broad field of scientific research that depended on the particular research technique often used in his experiments.

Harvard itself had faced growing criticism for not releasing more details of the inquiry since The Boston Globe reported on Aug. 10 that the university had found evidence of scientific misconduct in Dr. Hauser’s lab. On Friday, Michael D. Smith, dean of the Harvard faculty of arts and sciences, issued a letter to the faculty confirming the inquiry and saying the eight instances of scientific misconduct involved problems of “data acquisition, data analysis, data retention, and the reporting of research methodologies and results. No further details were given.”

The dean’s letter said that the United States attorney’s office for the District of Massachusetts had begun an inquiry and that Harvard was cooperating. Because some of the experiments involved federal money, inquiries are also being conducted by the Office of Research Integrity in the Department of Health and Human Services and the Office of Inspector General for the National Science Foundation.

A Harvard spokesman, Jeff Neal, said in an e-mail, “We were informed last week that the U.S. Attorney is looking into this issue.”

Citing those inquiries and Harvard’s rules, Dr. Smith said the report by the Standing Committee on Professional Conduct would remain confidential. But he also promised to convene a faculty panel to review Harvard’s policies for investigating misconduct cases.

According to the letter, three of the misconduct problems occurred in published articles and the rest were found and corrected before publication.

The sanctions to be imposed on Dr. Hauser are confidential, but could include involuntary leave, extra oversight, and restrictions on the ability to apply for grants and supervise students, Dr. Smith said.

The university said in a statement last week that Dr. Hauser or a co-author had been directed to correct three published papers for which the original data could not be found. But in two of the challenged papers, Dr. Hauser redid the experiments and obtained the same results as published. In one of the journals, his information was titled an “addendum”, not a correction. The other journal, Science, has not yet decided how to handle the issue.

Dr. Hauser presumably tried to repeat the third experiment as well but if so, he apparently failed to do so. He wrote this month to the editor of Cognition, the journal in which it was published,

saying he was retracting the paper, but gave no reason for doing so.

In his statement, Dr. Hauser, who is on a year-long leave, said: “I acknowledge that I made some significant mistakes and I am deeply disappointed that this has led to a retraction and two corrections. I also feel terrible about the concerns regarding the other five cases, which involved either unpublished work or studies in which the record was corrected before submission for publication.”

He said he hoped that the scientific community would wait for the federal investigative agencies to make their final conclusions. He added, “I have learned a great deal from this process and have made many changes in my own approach to research and in my lab’s research practices.”

There is a wide spectrum of scientific sins, ranging from wrist-slap offenses like bad data storage at one end, to data fabrication at the other. It is still not clear where on this spectrum Dr. Hauser’s errors may fall. He has admitted only to unspecified “mistakes,” not to misconduct.

Many of his experiments involved inferring a monkey’s thoughts or expectations from its response to a sight or sound. But the technique required somewhat subjective assessments by the researcher as to whether the monkey stared longer than usual at a display or turned its head toward a loudspeaker broadcasting an unexpected sound.

At least some of Dr. Hauser’s students disagreed with his interpretation of one such experiment three years ago, and reported their reservations to the Harvard authorities in a letter that was obtained this week by *The Chronicle of Higher Education*. It was this letter that spurred a three-year investigation of Dr. Hauser’s work going back at least as far as 2002.

In view of Dr. Hauser’s prolific output, the finding of missing data in just three experiments, two of which he was able to repeat with the same results, is perhaps not greatly surprising. Scientists trying to assess Dr. Hauser’s work are likely to attach considerable weight to the exact nature of the problems Dr. Smith says were found by the faculty committee. But separately from the Harvard inquiry, Dr. Hauser already had several critics in the scientific community who felt some of his published results were incorrect or unconvincing.

For his part, Dr. Hauser said that after he finishes taking some time off, he looked forward to returning to work, “mindful of what I have learned in this case.” He said, “Research and teaching are my passion.”

The Chronicle of Higher Education ⁴

Tuesday, August 24, 2010

One Bad Apple, and the Threat to Science

By Michael Ruse¹

At the beginning of August, Mark V. Hurd, chief executive of Hewlett-Packard, resigned abruptly under a cloud. It took a week or two for the full story to emerge and for the world to discover precisely what cloud it was that had fallen on him. At first, we learned that he was accused of sexual harassment. But then quickly that allegation was dropped, and we learned next that he had fudged his expense accounts.

Then, finally, after more digging by the press, the real story came out. Nobody in the company could stand him. He was a dreadful bully. More than this, although he was making a major profit for Hewlett-Packard, the feeling was that he was doing so at the expense of the company's long-term prospects. The board grabbed the pretext of the expenses, and he was gone.

Now compare that with the story of Hurd's near namesake, Marc D. Hauser. As the world now knows, Hauser is a leading evolutionary psychologist and a full professor at Harvard. For the past decade, he has been a rapidly rising star. He has published major papers (in good journals) on humans and other primates, on issues to do with language acquisition and on the possible biological bases of morality. One recent paper purported to show that moral feelings and reasoning can be separated from religious beliefs and commitments. He wrote a very well-received book, *Moral Minds: How Nature Designed Our Universal Sense of Right and Wrong* (Ecco, 2006). And he has spoken far and wide. Last year, he was a keynote speaker at a major conference at the University of Chicago, celebrating the 200th anniversary of the birth of Charles Darwin.

Then, a couple of weeks ago, *The Boston Globe* reported that, following complaints by his graduate students, he had been under investigation by his university for the last three years for scientific misconduct. As with Hurd, the story has been slow in emerging, and we still don't have it in full. But from a letter released by the dean of the Faculty of Arts and Sciences at Harvard, it appears that in a number of experiments, some published, some not, he had been fiddling with the results in some fashion.

What some saw as clearly going one way, he recorded as going other ways — other ways that confirmed his hypotheses about the importance of biology in the acquisition of language and moral abilities. As a result, Hauser has been found “solely responsible” for eight instances of “scientific misconduct,” and he told a reporter from *The New York Times* that he made “some significant mistakes,” and he was “deeply sorry for the problems this case has caused to my students, my colleagues and my university.”

Suppose Immanuel Kant had invented a moralometer — an instrument you point at someone who has done wrong, and it tells you where he or she falls on a scale of one to 10. (“Ten” being ethnic cleansing and “one” being sticking your tongue out at the teacher when he is not looking.) My suspicion is that, with respect to actual misdeeds, Hurd and Hauser would score about the same, say around five or six. It might be more if Hurd were actually guilty of sexual harassment,

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and it might be more if it turned out that Hauser had really bullied his students. But you can get the idea.

And yet, by and large the Hurd case leaves me cold, or rather (like everyone else), I could not understand why Hewlett-Packard would want to fire someone who was so successful, even though the illicit expenses ran into tens of thousands of dollars. Sure, he did wrong, but that is for him to live with. Get the money back, put in controls, and move on.

The Hauser case, however, really makes me mad. In part, this is because I was taken in by Hauser's actions. I have been praising his work to the sky, and I feel a bit stupid. I blame Hauser, and in part I blame Harvard for taking so long to tell us about it — something the university has done only with reluctance as the news became public.

For once, I think my reaction tells us less about Michael Ruse and more about something else, namely about the nature of science. Seventy years ago, the great sociologist Robert K. Merton made a number of points about science, and they seem still to hold today. Above all, he stressed that science is a community activity. Scientists may not always work together, although of course that is now very much the norm, but they do rely on each other, particularly for the ideas and theories that they use in their own research. In turn, they contribute — and want to contribute — to the general pool of knowledge.

Charles Darwin sat on his ideas about evolution through natural selection for 20 years, but when his priority was threatened (by the arrival of a paper from Alfred Russel Wallace with the same ideas), he quickly wrote up *The Origin of Species* and published it. What is distinctive about science (excluding commercial science and the obvious demands of making a living and so forth) is that scientists do not do what they do for money, but rather for respect and acclaim. You don't charge others for your ideas and equally you don't expect others to charge you for their ideas.

Now against this background, ask what can go wrong, why it doesn't normally go wrong, and why it does sometimes go wrong. What can go wrong is that someone doesn't play the game. Most obviously, someone pinches someone else's results — plagiarism — or someone fakes the results — fraud. Morally, there really isn't a lot of difference between the two. But the scientific community judges the latter far more sternly than the former.

If you pinch the ideas from someone else, say a grad student, one person suffers, but the community does not; it still gets a good idea or result. If you fake the ideas or results, and publish them, the poison spreads. We are all now at risk of using phony information, and our own work suffers. The community suffers.

This explains my reaction to Hurd and Hauser. By and large, no one much suffered from Hurd's bad behavior in regard to his expense reports. Many of us stand to suffer from Hauser's bad behavior. But now you ask why did they do it? Hurd is no big puzzle. Padding your expense accounts so you can spend on a pretty actress is too common to need remark — which explains why no one thought this could be the real reason for firing Hurd. But Hauser? A full professor at the world's leading university? Even if the results were not as he expected, it might have taken a bit more time, but surely he could have done something with them? It is rare that a good experiment fails to show anything interesting, even if it is not quite what you set out to find in the first place. Indeed, sometimes it is the experiment that did not seem to work that turns out, down the road, to be the really exciting investigation.

Sociologists offer conflicting explanations for scientific misconduct. Perhaps Hauser is just a "bad apple." He just doesn't care about the integrity of science. However, sociologists and psychologists point out that a lot of the motivation for doing science (and very much part of the

training) is getting it right for its own sake. I used the metaphor of science as a game, and there is truth to it. You can get a good score in golf by cheating, but there is more satisfaction in working hard and getting a good score without cheating. Likewise in science.

We don't know the full story about Hauser, but the problems with the bad-apple scenario lead many to another explanation, "organizational climate." Today, you have to build teams, attracting grad students and postdocs, and this costs money. You have got to get grants, preferably from well-respected sources like the National Science Foundation and the National Institutes of Health, in a highly competitive world. Fail to do this, and as a researcher, as a major player, you are dead. Or at least, you cannot do the sophisticated and expensive work that today's science demands. Perhaps in part, even Hauser at Harvard felt those pressures. Perhaps in part, precisely because he was at Harvard and so much was expected of him, he felt those pressures. My suspicion is that if that is the case, we will still be pretty cross, but we will all feel a certain sympathy. The grant imperative has taken a lot of pleasure out of being an academic.

Finally, a word about why the Hauser affair particularly is so upsetting and why it might have bigger consequences. Evolutionary biology today, especially anything to do with humankind, is loathed and feared by a range of critics, from prominent philosophers (like Jerry A. Fodor, author of *What Darwin Got Wrong?*), to the supporters of intelligent-design theory (like Phillip E. Johnson, author of *Darwin on Trial*), to the out-and-out young-earth creationists (like Ken Ham, the force behind the Creation Museum in Kentucky). Like sharks in the water, they circle waiting for a sign of blood. They seize on issues that supposedly discredit evolution and parade them publicly as the norm and the reason to reject modern science.

If anyone doubts what I am saying here, think of the recent controversy over global warming sparked when critics of the idea illicitly obtained e-mails and other confidential material of the researchers at the Climatic Research Unit at the University of East Anglia. For several months, much was made of incautious remarks made by the researchers about using "tricks" to conceal unwelcome findings and pushing for the firing of unfriendly editors. More measured reflections showed that in fact the researchers were guilty of virtually none of the sins of which they were first accused and that their work was of good quality. Global warming is a reality. But the damage was done.

Most of us feel a tremor of *schadenfreude* at the troubles of a prominent Harvard professor, but no one will be following the Hauser story with the unabashed glee of the critics of modern evolutionary theory. Wait for them to start pumping up the publicity, and fear the sideways damage that might be inflicted on all of the good work out there. One man's mistakes rebounds on every evolutionist. But that's science for you.

The New York Times⁵

August 27, 2010

Harvard Researcher May Have Fabricated Data

By NICHOLAS WADE

Harvard authorities have made available information suggesting that Marc Hauser, a star researcher who was put on leave this month, may have fabricated data in a 2002 paper.

“Given the published design of the experiment, my conclusion is that the control condition was fabricated,” said Gerry Altmann, the editor of the journal *Cognition*, in which the experiment was published.

Dr. Hauser said he expected to have a statement about the *Cognition* paper available soon. He issued a statement last week saying he was “deeply sorry” and acknowledged having made “significant mistakes” but did not admit to any scientific misconduct.

Dr. Hauser is a leading expert in comparing animal and human mental processes and recently wrote a well-received book, “Moral Minds,” in which he explored the evolutionary basis of morality. An inquiry into his Harvard lab was opened in 2007 after students felt they were being pushed to reach a particular conclusion that they thought was incorrect. Though the inquiry was completed in January this year, Harvard announced only last week that Dr. Hauser had been required to retract the *Cognition* article, and it supplied no details about the episode.

On Friday, Dr. Altmann said Michael D. Smith, dean of the Faculty of Arts and Sciences, had given him a summary of the part of the confidential faculty inquiry related to the 2002 experiment, a test of whether monkeys could distinguish algebraic rules.

The summary included a description of a videotape recording the monkeys’ reaction to a test stimulus. Standard practice is to alternate a stimulus with a control condition, but no tests of the control condition are present on the videotape. Dr. Altmann, a psychologist at the University of York in England, said it seemed that the control experiments reported in the article were not performed.

Some forms of scientific error, like poor record keeping or even mistaken results, are forgivable, but fabrication of data, if such a charge were to be proved against Dr. Hauser, is usually followed by expulsion from the scientific community.

“There is a difference between breaking the rules and breaking the most sacred of all rules,” said Jonathan Haidt, a moral psychologist at the University of Virginia. The failure to have performed a reported control experiment would be “a very serious and perhaps unforgivable offense,” Dr. Haidt said.

Dr. Hauser’s case is unusual, however, because of his substantial contributions to the fields of animal cognition and the basis of morality. Dr. Altmann held out the possibility of redemption. “If he were to give a full and frank account of the errors he made, then the process can start of repatriating him into the community in some form,” he said.

Dr. Hauser’s fall from grace, if it occurs, could cast a shadow over several fields of research until Harvard makes clear the exact nature of the problems found in his lab. Last week, Dr. Smith, the Harvard dean, wrote in a letter to the faculty that he had found Dr. Hauser responsible for eight counts of scientific misconduct. He described these in general terms but did not specify fabrication.

An oblique sentence in his letter said that the Cognition paper had been retracted because “the data produced in the published experiments did not support the published findings.”

Scientists trying to assess Dr. Hauser’s oeuvre are likely to take into account another issue besides the eight counts of misconduct. In 1995, Dr. Hauser published that cotton-top tamarins, the monkey species he worked with, could recognize themselves in a mirror. The finding was challenged by the psychologist Gordon Gallup, who asked for the videotapes and has said that he could see no evidence in the monkey’s reactions for what Dr. Hauser had reported. Dr. Hauser later wrote in another paper that he could not repeat the finding.

The small size of the field in which Dr. Hauser worked has contributed to the uncertainty. Only a handful of laboratories have primate colonies available for studying cognition, so few if any researchers could check Dr. Hauser’s claims.

“Marc was the only person working on cotton-top tamarins so far as I know,” said Alison Gopnik, a psychologist who studies infant cognition at the University of California, Berkeley. “It’s always a problem in science when we have to depend on one person.”

Many of Dr. Hauser’s experiments involved taking methods used to explore what infants are thinking and applying them to monkeys. In general, he found that the monkeys could do many of the same things as infants. If a substantial part of his work is challenged or doubted, monkeys may turn out to be less smart than recently portrayed.

But his work on morality involved humans and is therefore easier for others to repeat. And much of Dr. Hauser’s morality research has checked out just fine, Dr. Haidt said.

“Hauser has been particularly creative in studying moral psychology in diverse populations, including small-scale societies, patients with brain damage, psychopaths and people with rare genetic disorders that affect their judgments,” he said.

The New York Times⁶

October 25, 2010

Difficulties in Defining Errors in Case Against Harvard Researcher

By NICHOLAS WADE

The still unresolved case of Marc Hauser, the researcher accused by Harvard of scientific misconduct, points to the painful slowness of the government-university procedure for resolving such charges. It also underscores the difficulty of defining error in a field like animal cognition where inconsistent results are common.

The case is unusual because Dr. Hauser is such a prominent researcher in his field, and is known to a wider audience through his writings on morality. There seemed little doubt of the seriousness of the case when Harvard announced on Aug. 20 that he had been found solely responsible for eight counts of scientific misconduct.

But last month two former colleagues, Bert Vaux and Jeffrey Watumull, both now at the University of Cambridge in England, wrote in the Harvard Crimson of Dr. Hauser's "unimpeachable scientific integrity" and charged that his critics were "scholars known to be virulently opposed to his research program."

Also last month his principal accuser outside of Harvard, Gerry Altmann, allowed that he may have spoken too hastily. Dr. Altmann is the editor of *Cognition*, a psychology journal in which Dr. Hauser published an article said by Harvard to show scientific misconduct.

When first shown evidence by Harvard for this conclusion, Dr. Altmann publicly accused Dr. Hauser of fabricating data. But he now says an innocent explanation, based on laboratory error, not fraud, is possible. People should step back, he writes, and "allow due process to conclude."

Due process, in this case, includes an independent inquiry by the Office of Research Integrity, a government agency that investigates scientific misconduct. Its inquiries take seven months on average, ranging up to eight years, says John Dahlberg, director of the agency's investigations unit.

Under Harvard's faculty policy, the university cannot make known its evidence against Dr. Hauser, nor can he defend himself, until the government's report is ready. That leaves both in difficult positions. Harvard has accused a prominent professor of serious failings yet has merely put him on book leave. Dr. Hauser, for his part, cannot act publicly to prevent the derailment, at least for the moment, of his rising scientific career.

Harvard's investigation has been "lawyer-driven," says a faculty member who spoke on condition of anonymity, and has stuck so closely to the letter of government-approved rules for investigating misconduct that the process has become unduly protracted — it lasted three years — and procedurally unfair to the accused.

"I think it legitimate to ask why the Harvard brass did not push back against their lawyers," this member said. "At Harvard we now have the Un-Larry administration — no risk-taking, no thinking outside the box, no commitment to principles that challenge standard university practice," he said, referring to Harvard's previous president, the economist Larry Summers.

Dr. Hauser's difficulties began in 2007 when university officials went into his lab one afternoon when he was out of the country and publicly confiscated his records, an action based on accusations by some of his students.

For the next 18 months he had no idea what he was accused of. A troika of Harvard department heads then delivered a secret report. Dr. Hauser has amassed substantial legal debts in defending himself, his friends say. Harvard presumably has substantial evidence against Dr. Hauser.

He was investigated by a committee of fellow professors, and their findings were endorsed by the dean of the faculty of arts and sciences, Dr. Michael D. Smith. But from what is on the record so far, at least, Harvard's charges may or may not meet the government's definition of scientific misconduct, which is reserved for ethical offenses, like fabrication, falsification or plagiarism, that directly undermine the research process.

Two of Harvard's eight charges of scientific misconduct involve published papers for which some of the original raw data is missing. But Dr. Dahlberg, of the Office of Research Integrity, said: "Missing data is not scientific misconduct. The whole purpose of O.R.I. is to go after serious fraud and not the peccadilloes one might find in many labs."

Dr. Hauser and a colleague have redone the experiments and notified the two journals involved that they got the same results as reported. A third charge, apparently the most serious, concerns the article in *Cognition*.

The article, published in 2002, reported that rhesus monkeys can distinguish a novel string of sounds from a control sequence, an issue which has important bearing on their capacity for language. The novel and control sound sequences must be alternated so as to keep background conditions as similar as possible. But the video of the experiment contains only novel sequences.

Critics like Dr. Altmann at first charged that the controls had never been done, and that since control conditions are reported in the paper, they must have been concocted. But Dr. Altmann, a psychologist at the University of York in England, now says his earlier accusation was "heavily dependent on the knowledge that Harvard found Professor Hauser guilty of misconduct." When he gave the issue further thought, he saw an alternative explanation.

In the experimental setup, the monkey is in a soundproof box. The researchers can see the computer is playing a sound but cannot hear it. What could have happened is that the computer, through a programming error, substituted a second test sound for the control sounds, and the researchers, unaware of the problem, wrote up their report assuming the control sounds had been played as planned. Even so, it is far from clear how the data on the video led to the reported results. This would be a devastating error, but not fraud. "It is conceivable that the data were not fabricated, but rather that the experiment was set up wrong, and that nobody realized this until after it was published," Dr. Altmann wrote.

Mr. Watumull, a linguistics student, said that when he worked in Dr. Hauser's lab in 2007 he performed a similar experiment. It is "perfectly possible" that such an error could occur, he said, because the experimenters are blinded to the conditions of the experiment.

Harvard's five other charges of scientific misconduct involve disagreements between Dr. Hauser and his students, all of which were corrected before any articles were published. E-mails in one of these cases, leaked to *The Chronicle of Higher Education*, concerned the same kind of experiment as the *Cognition* paper: researchers scored how often a monkey turned its head to the loudspeaker, meaning it heard the sound as novel.

In analyzing the experiment, Dr. Hauser scored the head turnings as significant, but a graduate student and a research assistant both found the monkey did nothing. The e-mails show Dr. Hauser telling his students that "we need to resolve this because I'm not sure why we are going in circles."

The research assistant later wrote to the Harvard authorities, "The most disconcerting part of the whole experience to me was the feeling that Marc was using his position of authority to force

us to accept sloppy (at best) science.” It was this complaint that prompted the inquiry.

In at least one previous disagreement with students, Dr. Hauser backed off when challenged. A former student who worked in Dr. Hauser’s lab before 2007 said Dr. Hauser had required the use of a statistical test that provided a publishable result.

The student, who spoke on condition of anonymity, felt the test was inappropriate and objected. After discussion, Dr. Hauser agreed and the result was not published. “I worked with Marc for years on dozens of experiments, and I never saw any problems with the handling of data that were this serious,” this student said, referring to the Harvard committee’s charges.

A more recent student, Mr. Watumull, said he never saw Dr. Hauser putting improper pressure on people to reach a conclusion. “He’s truly one of the greatest teachers I had as an undergraduate,” Mr. Watumull said. “He’s very well known in the department for being solicitous of students and inviting them to offer their own opinions.”

One of the few people to have seen any documents from the Harvard inquiry is Bennett Galef, an expert on animal behavior at McMaster University in Ontario. Because of his interest in research ethics, he was asked by Dr. Hauser to review the charges relating to the three published papers. Dr. Galef said he concluded, based on what he was shown, that there was no clear evidence that Dr. Hauser had acted unethically.

Dr. Galef referred to the tensions that can arise in a large laboratory where some students are more successful than others. “Marc should have supervised more closely,” he said. Dr. Galef also questioned whether those conducting the inquiry fully understood the culture of an animal behavior laboratory. “As I understand it, the investigating committee were all physical scientists, and they have a very different approach to research and data-keeping than behavioral researchers do,” he said.

In an interview, Dr. Hauser declined to discuss the eight charges against him. But he did talk about another of his experiments cited by critics, a mirror recognition test, which is not part of Harvard’s investigation.

In 1995 he published a finding, which he later wrote that he could not repeat, that cotton-top tamarin monkeys could recognize themselves in a mirror. This contradicted a well-known finding by the psychologist Gordon G. Gallup that only humans, chimps and orangutans can recognize themselves.

Dr. Gallup asked for a tape of the experiment, which Dr. Hauser provided. But Dr. Gallup could see no evidence, he has said, that the monkeys were reacting as Dr. Hauser had reported. To critics, this seemed an example of Dr. Hauser rushing to unsustainable conclusions.

In Dr. Hauser’s view, his article correctly reported the cotton-tops’ reactions. One of the difficulties of the animal cognition field is that experimenters have to recognize often subtle changes in an animal’s head movements, and judge whether this is a response to the test sound. Scoring an animal’s responses is quite subjective. It can take months to train someone to score rhesus monkeys, and a person skilled at scoring rhesus may fail with tamarins.

Dr. Hauser’s 1995 article was written with two colleagues trained in scoring cotton-top tamarins reliably. Dr. Gallup may not have spotted the reactions because he is not trained in scoring cotton-tops, Dr. Hauser said.

Why, then, could Dr. Hauser not repeat the experiment? The reason, he believes, has to do with another unresolved problem in the animal cognition field, that of how to deal with the variability in individuals.

Just as with people, some animals are gifted, others less so. Alex was the wonderfully in-

telligent gray parrot studied by Irene Pepperberg; no other parrots have equaled his abilities to distinguish colors and numbers. A collie dog called Rico was reported in *Science* in 2004 to possess a 200-word vocabulary, but has never been heard of since, suggesting that for whatever reason the experiment cannot be repeated.

The prodigy problem can interfere with less spectacular experiments. Dr. Hauser says that the first group of tamarins he tested for self-recognition may have included a few very adept individuals but that later groups were more average. He was unable to get the same result, and published his failure to do so.

Disagreements over the appropriate method are quite common in the animal cognition field, as is evident in the fact that some of the most spectacular experiments cannot be repeated. Disagreements over method also seem to have been involved in at least some of the five cases involving differences between Dr. Hauser and his students.

The e-mails leaked to *The Chronicle of Higher Education* were portrayed as an instance of Dr. Hauser pressuring his students to reach conclusions they thought unjustified. But they could also have involved a technical difference of opinion about how to score rhesus monkey behavior, a matter in which Dr. Hauser is trained and the two students were not.

Dr. Hauser has already acknowledged making “significant mistakes,” but has admitted to nothing worse. It remains to be seen whether or not the Office of Research Integrity will see these mistakes as serious enough to count as scientific misconduct.

“Maybe down the line there’ll be some forgiveness and a way to re-enter,” Dr. Hauser said. “I feel I have a lot more to contribute. But it’s been brutal.”

The Chronicle of Higher Education⁷

October 26, 2010, 2:37 pm

Did Marc Hauser Get a Raw Deal?

By Tom Bartlett

Nicholas Wade has been covering the Marc Hauser scandal for The New York Times, and he has a new article today headlined “Difficulties in Defining Errors in Case Against Harvard Researcher.” The upshot is that maybe there was a rush to judgment against Hauser, and that the case against him may not be as straightforward as it originally seemed.

Wade summarizes an article I wrote for The Chronicle about Hauser, which was based on an internal document provided by a former research assistant in Hauser’s lab. He writes:

The e-mails leaked to The Chronicle of Higher Education were portrayed as an instance of Dr. Hauser pressuring his students to reach conclusions they thought unjustified. But they could also have involved a technical difference of opinion about how to score rhesus monkey behavior, a matter in which Dr. Hauser is trained and the two students were not.

A couple of points. First, in addition to Hauser, three members of Hauser’s lab (two research assistants and a graduate student) scored the experiment in question—not two. The first research assistant to score the tests had two years of experience with rhesus monkeys. The other research assistant actually wrote the software for the online coding system. I’d like to know who’s arguing that they weren’t trained. Hauser? Someone else? Besides, if they weren’t trained, then why would Hauser let them score experiments in the first place?

Also, the two research assistants weren’t actually students at the time, but paid, full-time members of Hauser’s lab.

Characterizing what happened as simply a “technical difference of opinion” doesn’t jibe with the extremely detailed account (which includes e-mails from Hauser and members of the lab) provided by the former research assistant. Hauser’s scores were drastically different. If Hauser was right, the experiment was a success. If the others were right, it was a bust.

Because of this discrepancy, the two research assistants and the graduate student wanted to double-check the results. As revealed in multiple e-mails, Hauser fought to keep this from happening. So they went behind his back and checked the videotapes themselves. They followed the same protocols that were followed when the experiment was originally scored. What they found was that many of Hauser’s scores didn’t appear to have any relation to the behavior of the monkeys. According to the former research lab assistant, these weren’t close calls. They concluded that Hauser’s scores were flat-out wrong. And not wrong just once or twice, but wrong again and again.

There are really two issues here. One is that Hauser’s results were so different from those of three other researchers. The other is that he seemed to be trying to use his authority to push through results that were questionable at best in order to turn a failed experiment into a triumph.

So, after talking with other members of the lab who described similar run-ins with Hauser, the research assistants and the graduate student brought the issue to the attention of Harvard authorities. In so doing they were putting their own careers in jeopardy. Making an enemy of one of the

most prominent researchers in your field, not to mention your mentor, is never a good idea. They all knew that. But they did it anyway.

Obviously, there's more to come in this case. The details of Harvard's three-year investigation (which found Hauser solely responsible for eight counts of scientific misconduct) are still confidential, and the investigation by the government's Office of Research Integrity continues. And Hauser himself has yet to offer a public defense of his actions.

One more quote from the *New York Times* article:

Harvard has accused a prominent professor of serious failings yet has merely put him on book leave.

According to an e-mail that Michael D. Smith, Harvard's dean of the Faculty of Arts and Sciences, sent to faculty members in August, the university has imposed "appropriate sanctions" against Hauser. While the dean didn't specify what those sanctions were, he wrote that they could include "involuntary leave, the imposition of additional oversight on a faculty member's research lab, and appropriately severe restrictions on a faculty member's ability to apply for research grants, to admit graduate students, and to supervise undergraduate research."

That sounds like more than mere book leave to me.

The Chronicle of Higher Education⁸

July 19, 2011

Marc Hauser Resigns From Harvard

By Tom Bartlett

Marc D. Hauser, the Harvard psychologist found responsible for eight counts of scientific misconduct by the university, has resigned, ending speculation about whether the embattled professor would return to campus this fall.

In a letter dated July 7, Mr. Hauser wrote to Michael D. Smith, Harvard's dean of the Faculty of Arts and Sciences, that he was resigning effective August 1 because he had "some exciting opportunities in the private sector" and that he had been involved in some "extremely interesting and rewarding work focusing on the educational needs of at-risk teenagers."

The letter states that he may return to teaching and research "in the years to come." It does not mention the scandal that damaged his once-stellar reputation and stunned his colleagues in the field.

Last August, The Boston Globe reported that a university investigation had found Mr. Hauser guilty of misconduct, though the nature of that misconduct remained murky. The picture became somewhat clearer after Mr. Smith, the Harvard dean, sent a letter to faculty members saying that Mr. Hauser was "solely responsible" for eight instances of wrongdoing involving three published and five unpublished studies.

An internal document provided last August to The Chronicle by a former research assistant in Mr. Hauser's laboratory revealed how members of the lab believed Mr. Hauser was reporting faulty data and included e-mails demonstrating how he had pushed back when they had brought problems to his attention. Several lab members alerted the university's ombudsman, setting in motion an investigation that would lead to the seizure of computers and documents from Mr. Hauser's laboratory in the fall of 2007.

The last update on the Hauser matter came in April, when the journal Science published a partial replication of one of Mr. Hauser's studies that appeared to validate his original findings. That seemed to be good news for Mr. Hauser and led some, like Bennett G. Galef Jr., an emeritus professor of psychology at McMaster University, to question Harvard's investigation.

In an interview Tuesday, Mr. Galef said that he had been asked to review material provided by Mr. Hauser's lawyer and that he did not find "any convincing evidence that he was guilty," though he said he had not seen Harvard's investigation report or read the accounts provided by members of Mr. Hauser's lab. "Whether he's innocent or guilty, I don't know," Mr. Galef said. He called the resignation "a sad outcome."

A former member of Mr. Hauser's lab, however, felt little sympathy for Mr. Hauser. The former research assistant, who spoke on condition of anonymity, was among those who blew the whistle on what they believed to be misconduct. "I certainly don't feel bad that this is the outcome for him," the former research assistant said. "I think it's nice for the people who are still at Harvard not to have him there making it awkward for everyone."

As for those who doubt Harvard's findings, the former research assistant said "I know what I saw," and "I agree with a lot of other people who looked at it and saw the same thing," adding that it was "beyond the scope of some innocent kind of action."

Harvard's report remains under wraps, and an investigation by the federal Office of Research Integrity is apparently continuing. Normally, the agency publishes the results of its investigations once they are concluded. An automatic reply from Mr. Hauser's e-mail account said he would be away until late July.

The Chronicle of Higher Education⁹

September 5, 2012, 3:55 pm

Former Harvard Psychologist Fabricated and Falsified, Report Says

By Tom Bartlett



Marc Hauser was once among the big, impressive names in psychology, head of the Cognitive Evolution Laboratory at Harvard University, author of popular books like *Moral Minds*. That reputation unraveled when a university investigation found him responsible for eight counts of scientific misconduct, which led to his resignation last year.

Now the federal Office of Research Integrity has released its report on Hauser's actions, determining that he fabricated and falsified results from experiments. Here is a sampling:

- Hauser published “fabricated data” in a paper on how cotton-top tamarin monkeys learn rules. In one of the graphs “half of the data” was made up. That paper has since been retracted.
- Hauser falsified coding in two other experiments with tamarins “making the results statistically significant when the results coded by others showed them to be nonsignificant.” Those experiments were not published after members of Hauser's lab objected that his coding was wrong.
- Again in an experiment involving tamarin monkeys, Hauser “falsely described the methodology used to code the results for experiments” that led to “a false proportion or number of animals showing a favorable response.”

Hauser “neither admits nor denies” any research misconduct but, according to the report, accepts the findings. He has agreed to three years of extra scrutiny of any federally supported research he conducts, though the requirement may be moot considering that Hauser is no longer employed by a university. Hauser says in a written statement that he is currently “focusing on at-risk youth”; his LinkedIn profile lists him as a co-founder of Gamience, an e-learning company.

In the statement, Hauser calls the five years of investigation into his research “a long and painful period.” He also acknowledges making mistakes, but seems to blame his actions on being stretched too thin. “I tried to do too much, teaching courses, running a large lab of students, sitting on several editorial boards, directing the Mind, Brain & Behavior Program at Harvard, conducting multiple research collaborations, and writing for the general public,” he writes.

He also implies that some of the blame may actually belong to others in his lab. Writes Hauser: “I let important details get away from my control, and as head of the lab, I take responsibility for all errors made within the lab, whether or not I was directly involved.”

But that take—the idea that the problems were caused mainly by Hauser’s inattention—doesn’t square with the story told by those in his laboratory. A former research assistant, who was among those who blew the whistle on Hauser, writes in an e-mail that while the report “does a pretty good job of summing up what is known,” it nevertheless “leaves off how hard his co-authors, who were his at-will employees and graduate students, had to fight to get him to agree not to publish the tainted data.”

The former research assistant points out that the report takes into account only the research that was flagged by whistle-blowers. “He betrayed the trust of everyone that worked with him, and especially those of us who were under him and who should have been able to trust him,” the research assistant writes.

As detailed in this Chronicle article, several members of his laboratory double-checked Hauser’s coding of an experiment and concluded he was falsifying the results so that those results would support the hypothesis, turning a failed experiment into a success. In 2007 they brought that and other evidence to Harvard officials, who began an investigation, raiding Hauser’s lab and seizing computers.

Gerry Altmann believes the report is significant because it finds that Hauser falsified data—that is, investigators found that Hauser didn’t just make up findings, but actually changed findings to suit his purposes. Altmann is the editor of a journal, *Cognition*, that published a 2002 paper by Hauser that has since been retracted. When you falsify data, Altmann writes in an e-mail, “you are deliberately reporting as true something that you know is not.”

Altmann takes issue with Hauser’s explanation that he simply had too many irons in the fire. “I don’t call falsification and fabrication letting important details get away from my control,” he writes. As for whether Hauser can ever return to the laboratory, Altmann thinks that, even though the sanctions for his misconduct last three years, the “field has a memory that lasts beyond” that time frame.

When asked whether he thinks he might resurrect his research career at some point, Hauser writes in an e-mail, “I would hope so.”

Notes

- ¹<http://www.nytimes.com/2010/08/14/education/14harvard.html>
- ²<http://chronicle.com/article/Document-Sheds-Light-on/123988/>
- ³<http://www.nytimes.com/2010/08/21/education/21harvard.html>
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