

# **The Success of a Deviant System Explained by a Toxic Leadership: An Illustration**

**Gilles Paché**  
**CERGAM**  
**Aix-Marseille University**

*While there has been some work in the past on toxic leadership in the context of corporate management, it has rarely focused on the use of this type of leadership in the implementation of a deviant system, in other words, an organization that systematically breaks the rules. The research note wishes to address the theme of toxic leadership by taking the famous case of the doping system implemented by Lance Armstrong for a decade, which allowed him to win seven successive Tours de France. The deviant system is based on a very efficient logistical bricolage thought and implemented by the toxic leader, and silently accepted by his victims.*

*Keywords: deviant system, doping, Lance Armstrong, logistical bricolage, toxic leadership*

## **INTRODUCTION**

The history of cycling is strongly linked to the doping of athletes, who early on sought to increase their athletic abilities during competitions (Fincoeur *et al.*, 2018). In the 1880s, the very first product that could be considered a dopant was Mariani wine, formed from a mixture of Bordeaux wine and coca leaf extracts from Peru. Known as the “wine of the athletes”, it is a euphoriant that gives the consumer a feeling of well-being. Other alcohol-based products followed, such as *Elixir de Vitesse* and *Vélo Guignolet*. Moreover, at the beginning of the 1900s, the riders participating in the first editions of the Tour de France did not hesitate to take a break in the bars located at the foot of the mountain passes in order to consume alcohol to be insensitive to pain. The dangers of doping were completely unknown at the time, even though a first case of death due to doping was suspected in 1896. The rider Arthur Linton died two months after his victory in the Bordeaux-Paris race. The official theory is that he died of typhoid fever, but it is thought that he was the victim of a mixture of alcohol and morphine administered by his trainer (Houlihan, 2002).

It was not until the end of World War II that the development of chemical doping was applied to running and then to cycling, notably through the creation of amphetamines (Hoberman, 2006). During the war, amphetamines were extremely successful in the United Kingdom, especially among Royal Air Force pilots during the famous Battle of Britain, from July 1940 to May 1941. The objective was to maintain a high level of alertness for pilots who were ready to fall asleep and to provide them with a feeling of confidence without impairing their judgment. The teams participating in the various competitions from the 1950s onwards understood the value of amphetamines to improve the athletic performance of their riders. The consumption of the doping product is then at the origin of the first incidents whose gravity is proven since it can go until death. During the 1955 Tour de France, and the ascent of the Mont Ventoux (1,180 miles),

Jean Malléjac is victim of a malaise due to an abuse of amphetamines, which leads to the exclusion of his trainer; it is the first case of exclusion for doping on the Tour de France. The most dramatic case, however, is that of British rider Tom Simpson, who died on July 13, 1967, during the 13<sup>th</sup> stage (day-long segment) of the Tour de France, a victim of heat, fatigue, alcohol consumption and massive absorption of amphetamines. Tom Simpson is one of the most emblematic “doping deaths”, to use López’s (2014) terminology.

The repetition of the incidents and their direct observations prompted some doctors supervising the Tour de France teams to meet in the mid-1960s to find solutions. At the same time, the French authorities, concerned about the image of excellence of the Tour de France, to which General de Gaulle was very sensitive, enacted an anti-doping law in 1965, and in 1966 they created the national doping detection laboratory. This did not lead to the end of doping in cycling, but on the contrary, to an increasing sophistication in the development of new doping products. This is notably the case of erythropoietin (or EPO), whose medical use will be quickly diverted. Initially intended for kidney failure or patients suffering from severe anemia, artificial EPO quickly found a place of choice in the doping system to offer riders exceptional endurance and increased performance. Lance Armstrong, winner of seven successive Tours de France, then stripped of his titles by the United States Anti-Doping Agency (USADA), is one of the most illustrious representatives of the “EPO times”. Of course, after Lance Armstrong, other doping cases will be widely publicized, such as that of Alberto Contador, convicted of doping with clenbuterol during the 2010 Tour de France (clenbuterol helps preserve an athlete’s muscle mass). However, the Lance Armstrong case is remarkable in terms of the planned organization of a deviant system leading to the industrialization of doping, in which logistics management play a major role.

The central hypothesis defended is that the success of this deviant system is based on the implementation of a particularly effective toxic leadership, as this research note would like to underline. Its structure is as follows. In the first part, we briefly describe Lance Armstrong’s personal trajectory, which led him to become a real businessman whose objective is to win prestigious races in order to sell his image of “winner” dearly, especially to powerful sponsors. In the second part, the analysis focuses on the deviant system set up in order to organize doping on a very large scale, in particular thanks to perfectly managed logistics in terms of transport and injection of doping products. In the third part, with reference to the concept of “logistical bricolage”, inspired by the seminal work of Lévi-Strauss (1962/2021), we underline that the deviant system implemented by Lance Armstrong can only be understood through the prism of his toxic leadership, which opens up stimulating research avenues for future work on other deviant systems.

## **EFFECTIVE BUSINESS VENTURE**

Lance Armstrong: a name that is widely known outside the boundaries of cycling, whose “notoriety” has even led to the writing of a famous case at Harvard Business School (Clayton & Fisher, 2014). It is true that the rider marked the 2000s, as much by his athletic performances as by an extraordinary personal trajectory, before being caught up in the dreaded doping system set up by him (Walsh, 2012). Shortly after his participation in the 1996 Olympic Games, his sporting career was put on hold when he was diagnosed with testicular cancer, which had spread to his brain, lungs and abdomen. After successful surgery and miraculous treatment, Lance Armstrong returned to competitive cycling in the late 1990s, winning an exceptional seven consecutive Tour de France races between 1999 and 2005. He announced his retirement from the sport in the summer of 2005, before making a comeback in 2009, taking third place in that year’s Tour de France. In early 2011, Lance Armstrong put an end to his career, before being caught up in the scandal. After years of denying allegations that he had used doping products, including EPO, he was accused in 2012 by USADA of being the mastermind of the most sophisticated, professionalized and successful doping program the sport has ever seen.

The story of Lance Armstrong’s doping and cheating system is, in large part, the story of a business venture, in other words an exciting and risky venture with the potential for significant gains, as the extensive literature on the subject indicates (Gilbert *et al.*, 2006). The story of this business venture begins in 1998, when the Festina team was arrested in the Tour de France with a car full of prohibited substances. For a

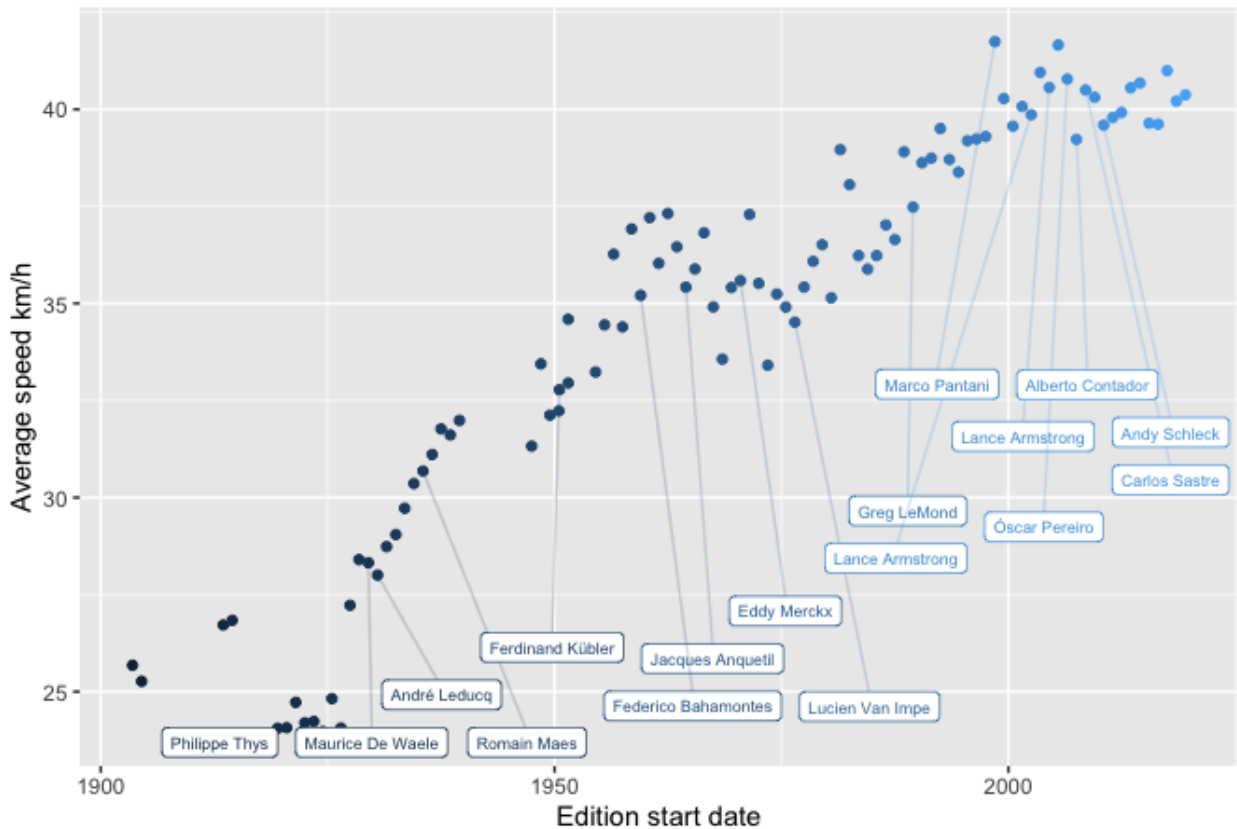
whole generation of French millennials, Richard Virenque's implausible statements, swearing at the time that he was unaware of being doped, are associated with the humorous expression "*A l'insu de mon plein gré*" ("Without my knowledge but of my own free will") that a satirical TV show systematically accuses the professional rider of being the "village dumb" (Recours, 2013). More seriously, Hamilton & Coyle (2012) point to a huge change in the culture of doping within cycling after the Festina affair. Before the Festina affair broke, threatening the very survival of the world's most famous cycling race (in the midst of much confusion, the 1998 Tour de France included a rider strike and the cancellation of a mountain stage), team officials and doctors directly managed the doping programs. Riders did little more than nod, say yes and hold out their arms. With the Festina affair, everything changed dramatically.

Indeed, the riders must now take charge of the doping operations themselves, and as Hamilton & Coyle (2012) underline, such a break is perfectly suited to riders with an entrepreneurial spirit who are not averse to taking risks. This is undoubtedly the profile of Lance Armstrong, whose personal trajectory certainly explains his ability to set up a deviant system that remains, even today, a reference model. Born in 1971 in Plano, Texas, he revealed himself as an athlete at an early age, taking up competitive cycling and triathlon at 13. At 16, Lance Armstrong became a professional triathlete, before focusing on cycling, his favorite and most successful event. During his senior year of high school, the U.S. Olympic Development Team invited him to train in Colorado Springs, but he still graduated from high school in 1989. His professional career began after winning the 1991 U.S. National Amateur Championship. He won his first professional race the following year, and his fame took off shortly after winning the Thrift Drug Triple Crown in 1993. However, it is as a true businessman that Lance Armstrong will reveal himself, after recovering from cancer. He will gradually become the American hero *par excellence*, and as such, he will quickly attract many sponsors such as the sports equipment manufacturer Nike, the bicycle manufacturer Trek and the brewer Anheuser-Busch.

## **FROM ATHLETIC PERFORMANCE TO TRANSPORT PERFORMANCE**

The story is well known and occupies thousands of pages on the Internet. Racing for a team sponsored by the U.S. Postal Service, Lance Armstrong built an exceptional record of seven consecutive Tour de France victories (five victories for Jacques Anquetil, Eddy Merckx, Bernard Hinault and Miguel Indurain). Lance Armstrong's case can be analyzed especially in terms of athletic performance. Alastair Rushworth, a data scientist at Edinburg, studied the average speed of each of the winners of the Tour de France since its inception (see Figure 1). He found that Lance Armstrong has consistently equaled or exceeded the average speed of 40 km/h during the seven Tours de France he has won. Of course, technological advances make it impossible to compare the most recent Tours de France with the earliest Tours de France. However, the fact that Lance Armstrong was able to achieve a high level of athletic performance for seven years in a row is exceptional. For example, while Greg Lemond had a remarkable performance in 1989, his other two Tour de France victories were average for the period. Similarly, the athletic performance of Marco Pantani, who died prematurely at the age of 34, only concerns the 1998 Tour de France (for which the evidence of his doping with EPO is proven). For Lance Armstrong, this means that no personal or medical vagaries during *more than 140 stages* of the various Tours de France have interfered with his racing.

**FIGURE 1**  
**TOUR DE FRANCE WINNERS AVERAGE SPEED**



Source: <https://alastairrushworth.github.io/Visualising-Tour-de-France-data-in-R/> (Accessed September 10, 2022)

Celebrated by the greatest American politicians and rubbing shoulders with show business personalities, Hamilton & Coyle (2012) describe Lance Armstrong as a CEO who ruled his team with an iron fist, a CEO at the center of a system of influence and resource mobilization never before known in professional cycling. Lance Armstrong appears as a toxic leader in the sense of Watkins & Walker (2021), whose behavior is not aberrant (his organizational project is clear), but who does not hesitate to abuse his power within his team and to practice moral corruption. It is also true that doping in the cycling world had been commonplace since the 1960s, as we have recalled, but the law of silence, in brief the “*omerta*”, remained dominant at the time (Dimeo, 2014). Cycling was a fairly confidential sport, for which the United States was indifferent (because it was outrageously dominated by Europeans, like soccer), with no worldwide media coverage. Doping was tacitly tolerated by spectators and fans, including those attending the Tours de France, and even by international regulatory institutions. For years, for example, Tom Simpson, who had doped but died in a dramatic crash in the Tour de France, was considered the victim of a system, not a guilty guy, and a stele on Mont Ventoux was dedicated to him, where admirers still come to gather (see Figure 2). Lance Armstrong is going to take advantage of this laxity and to rush into it.

**FIGURE 2**  
**THE STELE IN HONOR OF TOM SIMPSON IN FRANCE:**  
**A “PLACE OF CULT” STILL ALIVE**



Source: *Le Monde*, July 7, 2021.

In 1998, in association with Dr. Michele Ferrari, he understood all the advantages of EPO, a molecule naturally produced by the body, which stimulates the production of oxygen-carrying red blood cells. During the 1999 Tour de France, under the direction of its new sports director, the U.S. Postal Service implemented *ad hoc* logistics management to supply the team members, even though there was no test to detect EPO (it appeared for the first time in 2000). The operating process would be rather comical if it did not highlight a deviant system cynically devoid of any ethics. Indeed, Lance Armstrong devised a procurement strategy in which his personal gardener, flown in from the United States, followed the stages of the Tour de France on a motorcycle and delivered the EPO (Bell *et al.*, 2016). This gardener, known as “*Motoman*”, has both operational driving competences, but also interpersonal competences in cultivating the extreme discretion befitting any trafficker. As Hamilton & Coyle (2012) note, the U.S. Postal Service team then takes a dose of EPO probably every three to four days.

### **FROM TOXIC LEADERSHIP TO LOGISTICAL BRICOLAGE**

The use of the “gardener-transporter” testifies to a logistical bricolage in the sense that Lévi-Strauss (1962/2021) gives to the “*bricoleur*”, whose rule of the game is to always manage with the means at hand, in other words a set of tools and materials, heterogeneous in addition. Thus, the EPO is delivered directly by “*Motoman*” in syringes and all the riders have to do is to quickly inject themselves in the team bus and then throw the syringes into a can of Coca-Cola. It is then up to the team doctor to get the cans off the bus as quickly as possible (Hamilton & Coyle, 2012). As for autotransfusions, which prolong the doping effect of EPO, they require regular adjustments given the duration of the operation, which is much longer than the actual injection of the illicit substance. If the bus is once again the logistical equipment of choice for

carrying out the operation, in the bricolage logic mentioned above, Lance Armstrong, as a toxic leader, knows how to find and enforce effective alternatives.

During the 2004 Tour de France, the team bus simulated a breakdown in the countryside after the end of the stage and before returning to the hotel. Lance Armstrong and several of his partners underwent a discreet autotransfusion. The previous year, however, he was forced to use the apartment of his teammate George Hincapie in Gerona, Spain, to give himself an emergency autotransfusion. Locked in a room with the team doctor, Lance Armstrong used a clever device: the bag of blood to be reinjected was attached to a coat hanger, which in turn was hung on the wall. Lance Armstrong’s risk-taker profile will do the rest in even more tense situations. As on the day when the team doctor dilutes the rider’s contaminated blood with a bag of saline solution that the doctor hides under his coat and introduces into Lance Armstrong’s room, quietly passing in front of the inspector who installs his blood testing equipment in the living room of the apartment. Because any logistical bricolage has limits that the engineer –or even the scientist– does not know. The latter designs stable systems and constructs a rational discourse around their optimized functioning of which he is the center (Derrida, 1967/2014). Table 1, adapted from McKague & Oliver (2016), suggests a comparison between bricolage and engineering with reference to five dimensions.

**TABLE 1**  
**BRICOLAGE PERSPECTIVE VS. ENGINEERING PERSPECTIVE**

<b>Dimensions</b>	<b>Bricolage perspective</b>	<b>Engineering perspective</b>
<i>Epistemology</i>	The world is a complex, chaotic, interconnected system	The world can be reduced to orderly, independent component parts
<i>Metaphors</i>	Jazz music, detective	Architectural blueprint, scientist
<i>Assumptions about the external environment</i>	Rapidly changing, unpredictable and ambiguous	Stable, predictable and measurable
<i>Assumptions about solutions to problems</i>	Emergent: must be discovered by experimentation, interacting and learning from the local context	Rational: solutions pre-exist and can be known ahead of time by subject experts
<i>Orientation toward resource-seeking</i>	Resourcefulness: focus on possible creative uses of available resources	Specification: identify and source specialized resources designed for the job

Source: Adapted from McKague & Oliver (2016).

Lance Armstrong is a true expert in logistical bricolage, with a supply chain that is always in danger of being destabilized by unexpected incidents, such as last-minute visits from inspectors. The solution: to use the least detectable products, such as testosterone patches, or intravenous rather than subcutaneous EPO injections. With reference to Table 1, it is possible to speak of an adaptation to a rapidly changing external environment. Sometimes the only option is to simply destroy the prohibited products by rushing them to the bus toilet before injection, at the risk of losing several tens of thousands of US dollars. Still referring to Table 1, it is possible to speak of a creative use of available resources. From this point of view, bricolage has undeniable qualities, in particular the ability to get out of a crisis and thus show resilience in the face of the unexpected situation by developing original methods of mutual adjustment in a complex and chaotic world. Indeed, it would have been impossible for the deviant system set up by Lance Armstrong to operate for so long in the total absence of resilience, in other words, of a high level of reaction capacity.

## CONCLUSION

A fallen angel of world sport after extensive investigations by USADA, Lance Armstrong was stripped of all medals accumulated between 1998 and 2010 in the fall of 2012, including all of his victories in the Tours de France. In addition, he was permanently banned from participating in any future professional

competition. The authorities responsible for enforcing the sanction, however, did not pursue criminal charges, presumably because the International Cycling Union (UCI) had no official record of Lance Armstrong's doping tests. Some observers are quick to point to an organized bribery process, but it will forever be impossible to verify the reality of such allegations, even though two large donations to the UCI by Lance Armstrong in 2002 and 2005 have now been proven (Vandeweghe, 2016). Lance Armstrong remained silent, refusing to contest the accusations, but in early 2013, during an interview with Oprah Winfrey on American TV, watched by more than three million viewers, he publicly admitted that he had been involved in the use of doping products that greatly enhanced athletic performance.

It is nevertheless true that many "grey areas" remain on the operating methods associated with the logistical bricolage, at the heart of the toxic leadership of which Lance Armstrong is at the origin. The functioning of traditional supply chains has given rise, for the last thirty years, to an abundant academic literature which underlines how much the monitoring of physical flows depends on sophisticated information systems ensuring their perfect tracking and tracing. In the same perspective, a branch devoted to risk management underlines the way in which protection approaches are implemented in the face of threats and vulnerabilities that may arise throughout the product circulation process. There is no doubt that it would be interesting to build on this work to analyze the incredible efficiency of a doping system that has managed to impose itself over a decade. Of course, the performance of logistics management alone does not explain such a "success". Many professional riders, now retired, talk about the *abuse of power* that Lance Armstrong used to reign over the pelotons, threatening to ruin careers. From this point of view, it is impossible to analyze the success of the deviant system without referring to the toxic leadership of Lance Armstrong.

The Lance Armstrong case suggests important research avenues to better analyze the organization of deviant systems in the presence of toxic leaders. This is a sensitive topic, perhaps even taboo, but one that management research can no longer ignore. Already, work has been done on the key organizational dimensions of deviant systems, such as juvenile prostitution networks (Paché, 2022), international illegal organ trafficking (Heinl *et al.*, 2019), or cocaine and heroin trafficking (Caulkins *et al.*, 2016). These are major societal phenomena with dramatic human consequences but understanding them requires an in-depth knowledge of what service management calls the "back office". While it is important to identify and condemn the toxic leaders of a network (a drug trafficker, a pimp, an unethical professional rider, etc.), it is at least as important to analyze the forces of toxic leadership that lead its victims to accept the situation. In spite of the many studies devoted to the doping system put in place by Lance Armstrong, many questions remain unanswered about the obedience to authority that many professional riders have shown over a decade.

## REFERENCES

- Bell, P., Ten Have, C., & Lauchs, M. (2016). A Case Study Analysis of a Sophisticated Sports Doping Network: Lance Armstrong and the USPS Team. *International Journal of Law, Crime & Justice*, 46, 57–68.
- Caulkins, J., Disley, E., Tzvetkova, M., Pardal, M., Shah, H., & Zhang, X. (2016). Modeling the Structure and Operation of Drug Supply Chains: The Case of Cocaine and Heroin in Italy and Slovenia. *International Journal of Drug Policy*, 31, 64–73.
- Clayton, R., & Fisher, N. (2014). *Following Lance Armstrong: Excellence Corrupted*. Cambridge (MA): Harvard Business School Case No. 314-015.
- Derrida, J. (1967/1978). *Writing and difference*. Chicago (IL): University of Chicago Press.
- Dimeo, P. (2014). Why Lance Armstrong? Historical Context and Key Turning Points in the "Cleaning Up" of Professional Cycling. *International Journal of the History of Sport*, 31(8), 951–968.
- Fincoeur, B., Gleaves, J., & Ohl, F. (Eds.). (2018). *Doping in Cycling: Interdisciplinary Perspectives*. London: Routledge.
- Gilbert, B., McDougall, P., & Audretsch, D. (2006). New Venture Growth: A Review and Extension. *Journal of Management*, 32(6), 926–950.

- Hamilton, T., & Coyle, D. (2012). *The Secret Race: Inside the Hidden World of the Tour de France*. New York: Bantam Books.
- Heinl, M., Yu, B., & Wijesekera, D. (2019). A Framework to Reveal Clandestine Organ Trafficking in the Dark Web and Beyond. *Journal of Digital Forensics, Security & Law*, 14(1), 1–19.
- Hoberman, J. (2006). Amphetamine and the Four-Minute Mile. *Sport in History*, 26(2), 289–304.
- Houlihan, B. (2002). *Dying to Win: Doping in Sport and the Development of Anti-Doping Policy* (2<sup>nd</sup> ed.). Strasbourg: Council of Europe Press.
- Lévi-Strauss, C. (1962/2021). *Wild Thought*. Chicago (IL): University of Chicago Press.
- López, B. (2014). Creating Fear: The “Doping Deaths”, Risk Communication and the Anti-Doping Campaign. *International Journal of Sport Policy & Politics*, 6(2), 213–225.
- McKague, K., & Oliver, C. (2016). Network Bricolage as the Reconciliation of Indigenous and Transplanted Institutions in Africa. *Africa Journal of Management*, 2(3), 300–329.
- Paché, G. (2022). Prostitution of Underage Girls in France: The Hidden Supply Chain Dimensions. *Journal of Marketing Management*, 10(1), 1–12.
- Recours, R. (2013). Richard Virenque: Force et Fragilité d’un Symbole. In F. Monneyron (Ed.), *Sport et Imaginaire* (pp. 81–99). Montpellier: Presses Universitaires de la Méditerranée.
- Vandeweghe, H. (2016). Doping in Cycling: Past and Present. In D. Van Reeth, & D. Larson (Eds.), *The Economics of Professional Road Cycling* (pp. 285–311). Cham: Springer.
- Walsh, D. (2012). *Seven Deadly Sins: My Pursuit of Lance Armstrong*. London: Simon & Schuster.
- Watkins, D., & Walker, S. (2021). Victims of the Dark Shadows: A Model of Toxic Leadership. *Journal of Organizational Psychology*, 21(2), 10–21.