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Security and Safety in the Glyphosate Debate: A Chemical Cocktail for Discussion[2]

The WHO's International Agency for Research on Cancer (IARC) released on the 20th of March 2015 in Lyon (France) a controversial report stating that glyphosate, the world's most widely used herbicide, is probably carcinogenic for humans. The use of the word "probably" is meant to clarify that although there is a positive correlation between exposure to the chemical agent and cancer, other explanations (such as chance, bias, or confounding) could not be fully ruled out (International Agency for Research on Cancer 2015). While the debate triggered by this report has revolved around the agricultural uses of glyphosate at the international level, in Colombia the debate has been associated with the use of glyphosate to eliminate one of the main financial sources of insurgent groups: cocaine crops. Moreover, while the use of glyphosate in Colombia was banned for the eradication of illegal crops shortly after the release of the WHO report, its use remains unproblematic as a strategy of crop management for legal agricultural crops. How can these different responses to the evidence presented in the WHO report on glyphosate be explained?

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[2] This article was originally published in Alternautas on October 16th, 2016 and re-posted in http://www.alternautas.net/blog/2016/10/1/security-and-safety-in-the-glyphosate-debate-a-chemical-cocktail-for-discussion-r6xtd on September 22nd, 2017.

In this contribution I explore the ways in which the international debate on glyphosate's safety has been translated in Colombia to the local level, facing opposing groups with different understandings of what is vital to the reproduction of society. The debate invites us to consider the links between issues of safety (the protection of humans and the environment from herbicides) and security (the protection of the national population from groups labelled as enemies of society), based on different understandings of the "bodies" under protection (the human body, the political body, the social body). How are these bodies defined, prioritized and protected, and who bears the responsibility for this protection? What rationales of government are deployed for the management of safety and security concerns? The answers to these questions can shed light on the apparently contradictory ways in which the Colombian government has decided to respond to the WHO report with regards to the use of glyphosate for illegal and legal crops.

Glyphosate's Safety and Agrichemical Use

Farmers around the world have been using glyphosate to destroy and control weeds since 1974, when the agrichemical company Monsanto began marketing it under the commercial name "Round-up". The popularity of the herbicide has increased since the development of the so-called "Round-up ready" seeds, which have been genetically modified to withstand glyphosate: its use in the U.S went up from around 110 million pounds in 2002 to 283 million pounds in 2012 (that is, from 50 to 128 million Kg) (US Geological Survey 2014).

Although Monsanto's patent over glyphosate expired in 2000, the agrichemical giant still controls most of the herbicide's market. Its glyphosate products are registered in more than 130 countries and are approved for weed control in more than 100 crops (Monsanto 2015). As expected, the company reacted to the WHO report arguing that other scientific data did not support the results: "We don't know how IARC could reach such a divergent conclusion from the one reached by all other regulatory agencies around the globe," said Philip Miller, Monsanto's vice-president of global regulatory affairs (Monsanto Newsroom 2015). Miller referred in particular to an evaluation conducted by the German government on behalf of

the EU that was published in January 2015. Notwithstanding, the US Environmental Protection Agency (EPA), Health Canada, and the European Commission have also dismissed the risk of this chemical to people in the past, if used according to label instructions (Monsanto 2014). Still, however, the EPA is reviewing its opinion and has promised to take the findings of the IARC into consideration.

Miller's argument relies on the evidence produced by certain authoritative institutions. However, it is the authority of this type of regulatory agencies and their scientific assessments that have been questioned for other cases in the past. The U.S anthropologist James Scott, for instance, reminds us that the ecological effects of the infamous DDT were initially dismissed by regulators in the U.S: it was not taken into consideration that the evidence of the chemical's safety was based on examinations carried out by scientists under experimental conditions. It was ultimately the observation gathered by consumers that put pressure on regulators to make DDT illegal. As opposed to these scientific experiments, consumers observed the interaction of the chemical with the environment and bared witness of the effects of its residues being absorbed along the food chain (Scott 1999, 291). Thus, awareness of the real life field effects of the chemical arose from outside the scientific paradigm, as has been the case with glyphosate long before the WHO report was released, and as it continues to be today. Despite mounting social resistance to the renewal of the EU's authorization of glyphosate, it was granted on the 28th of June 2016.

Irrespective of the validity of the arguments both for and against glyphosate, the debate at the international level has revolved around the implications that the WHO report might have on the commercialization of glyphosate for agricultural purposes. Strong restrictions on the use of glyphosate would immediately weaken "Round-up ready" seeds as commodities because their marketed special feature would no longer be at a premium. One aspect of the socio-technical network that sustains the "Round-up ready" seed as a unique commodity would destabilize: the legality of its complementary merchandize glyphosate. It would be interesting to see

how securing a market for these seeds or the health of the population along with environmental safety will be weighed against one another in public debate. This comparison will influence official decision-making, further determining what will ultimately prevail in different countries.

Security and Glyphosate as a Chemical Weapon

This debate, however, is not limited to the agricultural use of glyphosate. The chemical has been applied for other purposes around the world, which influence the course of the debate at the local level. In Colombia glyphosate has been used to destroy illegal crops such as coca and poppy, whose commercialization finances insurgent organizations such as the FARC (Solomon et al. 2007). There are precedents of this strategy in the country from the early 1980s responding to pressures of the Reagan administration (Colectivo de Abogados "José Alvear Restrepo" 2016). However, official government commitment to the strategy dates from 1999 as part of the US financed "Plan Colombia", which sought to reduce the production of cocaine in the country by half (Daniel Mejia 2014).

For over a decade, Colombian and foreign scientists have published studies that recommend stopping the use of glyphosate for its negative effects over the environment (Relyea 2005), and over local communities (Veillette C and Navarrete-Frias C 2005). Others have documented its negative effects over human health in ways as diverse as dermatological conditions, as well as fecundity and mental problems (Sanborn et al. 2004) breathing difficulties (Sherret 2005) and gastrointestinal complications (Cox 1995). Moreover local communities have associated the use of the herbicide with the appearance of diseases amongst their population and livestock. Farmers have also claimed that glyphosate destroys their food crops (Tiempo 2015b). Despite these claims, there was little debate on the appropriateness of aerial fumigations at the governmental level until the release of the WHO report. Since then, ministries and other governmental bodies, including the president, have made regular pronouncements. In April 2015, the Ministry of Health Alejandro Gaviria recommended to "immediately stop aerial fumigations for the eradication of illicit crops" (Semana 2015). On the contrary, the Ministry of

Defence Juan Carlos Pinzon announced to the news radio RCN that fumigations would continue and the Inspector General of the country declared in the news radio station Blue Radio that such suspension would be a terrible drawback in the war against the FARC (BlU Radio 2015). Ultimately, it was the State Attorney General who described the trade-off as one between safety and security: "when choosing between the life of citizens and war against organized crime I believe that we should prioritize peoples' lives" (BlU Radio 2015).

The debate in Colombia pits those taking a position based on the precautionary principle who advocate for the suspension of fumigations against those who argue that ends justify the means. Therefore any measure that weakens the enemies of the state is legitimate. The first group seems to rely on a biopolitical logical framework, whereby citizens' integrity is at the core of the state's responsibility. The second perspective seems to be a thanatopolitical one, by means of which some parts of the population may be sacrificed for the sake of the stability of the nation as a whole (Foucault 1990, 137); it incorporates a kind of "reason of state", whose priority is to strengthen the state and its political body, by debilitating its enemies.

These two positions in Colombia are closely related to the main strategies that have been devised to manage the internal conflict. On the one hand, president Santos's re-election in 2014 was based on a campaign for peace that was linked to the negotiations with the FARC in Havana, Cuba. The president's position with regards to glyphosate is that the WHO report and the advise of the Ministry of Health should be heeded. This resonates with the opinion of the FARC leaders in Havana who claim to have witnessed the devastating effects of glyphosate but is contrary to the position of the United States, who backed up glyphosate against the WHO report (RCN Noticias 2015). According to the media, with this position Santos makes a statement about the necessity to rethink the strategies that have been used in the struggle against drug trafficking (Tiempo 2015a). On the other hand, the leader of the opposition in the senate and ex-president Alvaro Uribe worked during his administrations towards the military weakening of the rebel organization, even when that meant bombing a FARC camp in the neighbouring

country of Ecuador. Many members of his administration have been accused and condemned for human rights violations and corruption (Jorge Gomez Pinilla 2015). His position is that giving up glyphosate fumigations would mean surrendering an important weapon to be used against the enemies of the State.

The final decision was put in the hands of the National Drug Council to whom the President of the Republic entrusted the suspension of the fumigations, in following with the Supreme Council's ruling. Finally, the National Drug Council met on the 15th of May and, after three hours of discussion, it decided by a majority vote to suspend aerial fumigations of glyphosate as part of the internal struggle against drug trafficking. Safety had outshined security, but the discussion could be reopened in the future: indeed, shortly after the final peace agreement was signed between the government and the FARC in 2016, the country's attorney general requested to reauthorize aerial fumigations using glyphosate. Faced with rising coca crops in the country, and the presumed demobilization of the FARC, it is his opinion that other groups will try to take over the FARC´s drug business. This might in turn increase the levels of conflict. His request has not yet been accepted (Tiempo 2015c).

While one chapter remains closed in the security debate, the debate on safety in regards to the agricultural use of glyphosate is in its early stages. During the debate on security, the Minister of Agriculture Aurelio Iragorri had left the possibility to suspend the use of glyphosate for agricultural purposes open. Once the National Drug Council made the decision to suspend the aerial fumigations of illegal crops with glyphosate, concerns by environmentalist and farmers regarding the use of the herbicide for agricultural purposes seem to have been met. However, after the Council's decision, the Minister announced that glyphosate was still authorized for legal crops, including aerial aspersions for sugar cane and rice (Tv Journal - UNO). Agricultural geneticist and GMO promoter Alejandro Chaparro argued that while glyphosate should not be suspended, aerial fumigations of any crop are "absurd" (Portafolio 2015). This is because the wind can carry the chemical to non-targeted lands and water sources even if recommendations not to fumigate over 10 meters

above the ground are followed; a measure that is arbitrary, difficult to comply with, and impossible to monitor or enforce.

The government's response to the agricultural use of glyphosate begs the question: Why would the Colombian government expect anyone to accept different regulations for the use of glyphosate over legal or illegal crops in the light of the WHO's report? One argument stressed by the Minister of agriculture appeals to the distinction between public and private responsibilities. While the State is responsible for the aspersions against illegal crops, the minister argues that "every chemical product used in the agricultural sector carries certain level of risk, and it is the owner of the land, the producer or the farmer, who chooses the product to be used in his crop" (Portafolio 2015). Thus, while the State warns against the use of glyphosate on account of the potential harm to the health of its citizens, and decided to stop aerial fumigations of cocaine crops, individual actors as private persons may continue to use the product, even if it harms their soil and their health. Safety is thus turned into a matter of private choice and responsibility is transferred to the citizen-entrepreneur, while the government establishes regulatory guidelines and educates regarding risks. Security remains within the State's responsibility, while safety is shifted from the public to the private sphere.

Why such a shift? Analysing the differences between the safety and the security of an object, body, or system under protection might shed light on this question. Marie Line argues that "The inability of the system to affect its environment in an undesirable way is usually called safety; the inability of the environment to affect the system in an undesirable way is usually called security… Safety focuses on unintentional events, while security also focuses on threats coming from outside the system, often caused by malicious parties" (Maria Line 2006). Based on this definition I proposed a differentiation between safety and security measures that is by no means exhaustive but that allows me to tease out the different state responses of the Colombian government to the WHO report. We can think of safety measures, on the one hand, as linked to internal guidelines and practices set in place to protect the well functioning of a system (the human body, the ecosystem, the

state). Security measures, on the other hand, are related to strategies adopted in order to protect a given infrastructure, area, or population from external and often intentional attacks. From this perspective the border between safety and security is located at the border between what is considered to be internal to the object under protection (and that can be regulated through regulatory safety measures that guarantee the well functioning of a given system), and what is considered to be external to it (and that can be controlled through security mechanisms intended to prevent external attacks). Safety measures are closer to rationales of governing that regulate the circulation and flow of processes, commodities, diseases, etc, inside a system, while security measures are closer to disciplinary rationales of governing that prohibit external processes that could endanger it.

In relation to this, the Minister of agriculture put forward a second argument to explain why glyphosate should not be used to eradicate illegal crops but can be used for the management of legal crops. The argument points directly at the governmentality of the State's action: suspending the use of glyphosate for agricultural purposes would have negative consequences for the economy, as it would render Colombian farmers less competitive in international markets. In the private sphere, what is needed is therefore not prohibition but regulation: a balance should be found that allows for the circulation and flow of "Round-up ready" seeds and glyphosate without significantly affecting the population's health. This balance is mediated by safety regulatory guidelines (such as tolerance levels, and ways of application) that, however, often do not take into account the synergic effect of a particular toxic substance when combined with others even below their acceptace safety thresholds (Beck 1992, 66–68).

A thanatopolitical logic that was temporality ruled out from the security debate, where some may be sacrificed for the whole, returns. It is the safety of "the agricultural economy" and not the security of the State that is here weighed against human health. With the positive end of the peace agreements against the FARC and the expected demobilization of the FARC members, illegal crops can no longer be seen as the financial source of the external enemies of the State. Instead, the

FARC members will be internalized as political actors. As the enemies of the state disappear so do the external threats that they posed. Alternative though less efficient strategies to glyphosate can be considered for the eradication of illegal crops because they no longer represent an external threat to the state but an internal threat to human health. The trade-off between security and safety disappears. A different trade-off re-emerges when taking into account the agricultural economy: "The agricultural economy" is the State's responsibility too, and in this respect, an increase in agricultural productivity trumps health. The safeguarding of the economy has priority over safeguarding the health of the population.

Of Externalities and Chemical Cocktails

In order for the State to defend this trade-off two things must happen. First, the interests of all farmers need to be homogenized along the lines of an abstract "agricultural economy" that the State claims to represent. In other words, the object of protection must be defined, and it must be defined as the responsibility of the State while other vulnerable bodies are defined as the citizen's responsibility; secondly, agriculture must be isolated from the rest of society so that the externalities of the agricultural use of glyphosate remain outside of the public debate. A key element here is that the bodies under protection are portrayed as separate from each other. In this way, the protection of the agricultural economy is not in contradiction with the protection of the population's health or their environment. But how far can these fictional bodies of protection and their separation be sustained?

Through the first process all farmers are equated with large commercial farmers involved in agri-business, whose main economic interest is to be competitive at the international level. The interests of Colombian farmers, who have eschewed the use of agrichemicals and opted instead for traditional and agroecological alternatives are

ignored. During my field research on bio-safety in Colombia[3] I have worked with many of these farmers in Tolima and witnessed their efforts to not only protect local seed varieties but also to create polycrop ecosystems. Their primary goal is autonomy and self-sufficiency rather than competitive advantage. Their message is clear: there is more than just one agricultural economy in the country. In 2013, Colombian farmers from different backgrounds, sectors and scales gathered to make different demands to the government. For a month, they rallied towards the country's capital, blocked important roads and voiced their ideas in public fora, conferences, and meetings with civil servants. When talking about this strike, an indigenous leader from Tolima told me: "many farmers are asking for subsidies and lower prices in agrichemical products, but we are not. We just want to be able to transition back to our traditional type of agriculture." This is not to romanticize indigenous farmers, many of whom are involved in industrial agriculture at the same time, but to recall that "the agricultural economy" mobilized in State discourses is a homogenous abstraction that does not exist in reality. Defending an agricultural economy that needs glyphosate as a vital technology, despite its effects, does not equate to defending farmers' economies.

Through the second process the government presents a regulatory framework for the use of glyphosate, which would allow certain farmers to continue using the herbicide in an allegedly safe manner. The circulation of glyphosate in agricultural markets would thus not be in contradiction with the protection of the population´s health—at least, not insofar as the recommended regulatory measures are followed. The regulatory framework is however necessarily filled with simplifications and cannot rule out every possible negative externality. In the south of the corn-producing department of Tolima, for example, at a local "chicheria", one can order

[3] I carried out fieldout the first semester of 2014 in the department of Tolima Colombia and the second semester of 2015 in the department of Cordoba. My ethnographic work traced the links between biosafety regulations that addressed the potential risks of GMOs and the commodification of GM cotton seeds.

"chicha", a fermented beverage made out of "traditional" (i.e. non-GM) corn, but get a "Randazo" instead. As a local "chicha" producer told me: "Round-up ready corn is not good for chicha because the beverage just does not jell, so we go through a lot of effort to protect our corn varieties". Ironically, chicha is now commonly served in "Round-up" bottles, which are recycled after being thrown away by farmers. "Randazo" is the local name for this cocktail that may contain residues of a "probably" carcinogenic substance: glyphosate. Many people from different segments of society come to these places: industrial and non-industrial farmers, and people who do not have any contact with farming at all. Should it also be up to the consumer to know what Round-up is and ask for a different bottle when buying "chicha"? In addition to wondering about the finances of the FARC or about an abstract agricultural economy, should we not learn from DDT consumers by asking how glyphosate (regardless of its use for legal or illegal crops) is being absorbed along the food chain?

This reflection is important not only because it problematizes the arguments mobilized in the Colombian discussion, but also because it directly points towards the relationship between individuals, society and the environment. To recall James Scott's observation above, by prohibiting the use of DDT, the environmental residues of the chemical from where humans obtain their food were reduced, which in turn improved human health. Scientific studies that argued in favour of DDT´s safety were based on the effect of the chemical over the human body in experiments that were necessarily limited in space and time. These studies, however, did not take into consideration the chemical´s cumulative effects as its environmental residues increased and reached human populations. Human bodies are clearly connected to their environment and their protection cannot be decoupled from the protection of the environment with which they relate. The human body is an open system that interacts with social decisions and natural elements, or in other words, the body's borders are a blurred construction.

The constructions of these bodies as separated from each other make it possible to compare the State's security and the aggregate agricultural economy's performance

as opposed to the safety of individuals and the environment. Stemming from Scheper-Hughes and Lock's categories (Scheper-Hughes and Lock 1987), some groups will prioritize the individual's body, whereas some will put forward the social body and yet others will advocate for the protection of the political body. The Colombian debate is ultimately a discussion about how these bodies are constructed, which of these bodies should be protected against external or internal threats, and by whom. Less emphasis is however given to their interconnections. This omission creates an obscurity that, on the one hand, allows the State to prioritize the health of the individuals vis-à-vis the peace talks and the WHO report, but on the other hand, it allows for its undermining, ignoring what happens in concrete cases in local environments as far as an abstract aggregate agricultural economy is concerned.

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