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On Vivisection, Interest Groups and Influence

Núria Almiron

The word vivisection is barely used today, and for some people therefore a fully unknown concept. However, for a long period of time it was what experimenting with animals (human and nonhuman) was called. Since human vivisection came to be considered a form of torture, the term ended up being applied to nonhuman animals alone. The dictionary of the Encyclopaedia Britannica defines vivisection as “an operation on a living animal for experimental rather than healing purposes; more broadly, all experimentation on live animals.” Note that when the Britannica says “animal” they mean “nonhuman animal.” Typically, vivisection has been understood as experimenting with nonhuman animals without the use of anaesthesia, as was the case in the past. But here, “the past” does not mean since the times of Descartes, the 17th century philosopher who famously claimed that animals could not possibly feel pain when cut up, as they did not possess a soul. By “the past” here, I mean since the very beginning of Western classical knowledge.

Galen, the Greek physician, surgeon and philosopher from the days of the Roman Empire (AD 129-216), considered to have been the founder of anatomy, physiology, pathology, pharmacology and neurology, amongst other disciplines, used vivisection intensively. He had little, if any, concern for the nonhuman animals he used, actually advising his students to cut into living beings “without pity or compassion” (Guerrini, 2003, p. 18). By our current standards, Galen would today be considered a psychopath. However, vivisection without anaesthetics is still conducted on nonhuman animals in modern times, and, more importantly, operating on living animals for experimental purposes, with or without anaesthetics, is the norm in modern research. Even anaesthetized, they still are “living animals,” at least until they are killed. Vivisection is thus a word that still largely

applies to what we do to animals in laboratories, with or without narcotics and painkillers, in spite of modern-day attempts to bury the term.

Scientists dropped it from their terminology long ago. It was too explicit. It did not fit well with the clean narrative of modern progressive science. Today, the word is mostly remembered and used by animal advocates. Vivisection continues to precisely reflect what we do to other animals in laboratories: we cut nonhuman animals' bodies and perform all sorts of other harmful and invasive practices on them while they are alive, with or without anaesthetic, including psychological and trauma testing, whether in a laboratory or in military, educational or other environments. In spite of its accuracy, replacing vivisection with the less graphic animal experimentation or animal testing is one of the many public relations decisions adopted by the animal experimentation industry.

Because animal experimentation is a major source of suffering for millions of nonhuman animals¹, we need to have a sophisticated understanding of the industry that uses them if we are to accurately evaluate its claims of vivisection being essential for the progress of science. This chapter offers a short overview of what this industry is all about and its huge lobbying power, and, therefore, its enormous capacity to shape public policies, messages and opinion.

Industrial complexes and the vivisection industrial complex (VIC)

Many people think that modern research is mostly the manifestation of science. Unfortunately, it is also, if not above all, the manifestation of influence and money; that is, of the capacity of a very powerful industry to influence society for continuing business as usual, so that the industry's activities are accepted or even praised, even if involving massive suffering for a large number of individuals, humans and nonhumans alike. This is so because science and medicine have become big business

¹ In the name of science and progress, millions of rodents, fishes, birds, dogs, cats, amphibians, cephalopods and reptiles, along with other mammals, including primates, are used in animal experimentation each year. In the European Union alone, more than 10 million individuals were used in experiments in 2019 (EC 2022). Because many countries do not properly keep track of the animals used in experimentation, the total global figure is unknown. However, estimations point to between 150 and 200 million animals used in experiments around the world each year.

within capitalism. In particular, the industry based on vivisection, that is experimentation on nonhuman animals, is so mighty that Natalie Khazaal and myself awarded it the name “industrial complex” (Almiron & Khazaal, 2016).

The term “industrial complex” refers to the entanglement of business with social and political institutions for the sake of maximising profit. U.S. president Dwight Eisenhower popularised the concept in the 1960s in applying it to the military. With it, he pointed to the confluence of the military industry’s economic interests and militaristic or imperialist policies. More specifically, he referred to the American industrial groups interested in maintaining the arms race for economic benefit during the Cold War.

Eisenhower’s phrase has inspired other authors, including those critical of animal exploitation. Dutch anthropologist Barbara Noske (1989) was the first to mention the “animal-industrial-complex,” a concept that Richard Twine (2012) later elaborated on further. Noske’s phrase referred mostly to animal exploitation in the food system and addressed the political economy of this exploitation, that is, the distinct interests entangled within it, which cannot be properly understood outside of the corporate capital accumulation process. Twine produced a definition which applies not only to animal exploitation for human food, but to all other types of animal exploitation. He defined the animal-industrial-complex as:

A partly opaque and multiple set of networks and relationships between the corporate... sector, governments, and public and private science. With economic, cultural, social and affective dimensions it encompasses an extensive range of practices, technologies, images, identities and markets. (Twine, 2012, p. 23)

Needless to say, these and other “industrial complexes,” not only the military but also the prison-industrial-complex, the entertainment-industrial-complex and the pharmaceutical-industrial-complex, to name the most widely studied ones, are undemocratic forces. Eisenhower himself described the military-industrial-complex as a “threat to democratic government” (NPR, 2011). But I adhere to Richard Twine’s warning regarding the need to avoid automatically associating the industrial complex’s power with any sort of secret, unlawful, coordinated, planned action by a handful of wealthy people. Although conspiracies do exist, here we are talking of something more intricate and multifaceted. As Twine put it, an industrial complex

Points to relatively powerful alliances and networks in particular sectors of the global economy that strive to maintain a hegemonic position. It underlines how capital accumulation and resource control may become the overriding rationale in spheres such as global food production or military conflict and how these relations are implicated and used as conduits for geopolitical strategies. Yet it would arguably be a mistake to overplay the degree of control that particular actors and actor-networks are assumed to have. (Twine, 2012, p. 23)

This is an important clarification to make, since in doing so we contribute to clarifying what an industrial complex is—an entanglement of economic, political and social interests that may also include the media, academia and other elites, in alignment with C. Wright Mills’ idea of a power elite. Mills believed that we should overcome the “simple” Marxian and liberal views that make “the big economic man the real holder of power” and “the big political man the chief of the power system,” respectively. It is so as to avoid these “oversimplified” accounts that Mills employed the term “power elite” (Mills, 1956, p. 277). The participants in Mills elite need neither be nor act as a homogeneous pack, and may compete or even clash with each other, although they may act together when it is convenient to do so. This perfectly reflects the functioning of modern-day industrial complexes.

The above serves as an explanation for the theoretical framework that illuminated our definition of the vivisection-industrial-complex (VIC), which with Natalie Khazaal I devised to characterise all the interests surrounding animal experimentation in current financial capitalism. Thus, we defined VIC as a complex comprising different types of organisations and businesses whose source of funding depends on or is related to using nonhumans for research. These mostly include (Almiron & Khazaal, 2016, p. 261):

- (a) public or private companies directly conducting or commissioning animal testing (mainly pharmaceutical, but also chemical, cosmetic and tobacco companies, as well as the government and the military);
- (b) academic institutions (universities, research labs, medical schools); and
- (c) suppliers of animals for research and of related services besides animal testing, such as providing organs, instruments and training.

VIC therefore includes any business that directly or indirectly conducts or supports vivisection. Although VIC overlaps with the pharmaceutical-industrial-complex, it has a broader reach. It is useful to clarify the interests specifically surrounding animal experimentation in order to gain a better understanding of what is behind the promotion and justification of this particular type of animal exploitation. To this end, in the following sections I will proceed to describe the political economy of the vivisection-industrial complex, including its capacity for influencing and the forms of persuasion it uses.

The VIC's economic power and lobbying capacity

Nonhumans are used in several types of experimental research. Among the most common of these are basic research (genetics, developmental biology, behavioural studies), applied research (biomedical research, xenotransplantation²), drug and toxicology testing, educational research (mainly at universities), breeding research (genetic selection) and defence research (by governments). The largest number of nonhuman animals used in laboratories are for the purpose of basic research. In 2019, for example, 45.0% of all animal use in experiments in the EU was for basic research, while 26.7% was for translational and applied research, 16.9% for regulatory use and 5.9% for routine production (EC, 2022a). The number of animals in experimentation in Europe follows a similar distribution among the aforementioned categories each year.

In contrast to what many people think, these figures show that the majority of animal testing is not for direct and applied uses (to directly produce medicines, for instance), rather for the sake of attempting to collect knowledge, which is the main goal of basic research, where more animals are used in experimentation, in order to improve or confirm scientific theories. Actually, the category of applied research includes non-regulatory toxicology and ecotoxicology testing, which makes the percentage of animals used for real applied research even less relevant compared to basic research.

² According to the World Health Organization, xenotransplantation refers to the transplantation of cells, tissues or organs among different species (<http://www.who.int/transplantation/xeno/en/>). This research is done as an alternative to procuring material of human origin, purportedly to bridge the shortfall in human material for transplantation.

Many people are also ignorant of the fact that governments are major players in the VIC, mostly being involved in animal experimentation through research funding, public universities and defence. Furthermore, governments also impose regulations on the testing of products and substances for human consumption like drugs, chemicals, and cosmetics on nonhumans before they are marketed. In this respect, regulations can be rather contradictory. For instance, although EU regulations require promotion of the 3Rs in animal research (Replacement, Reduction and Refinement), including a ban on animal testing for cosmetics, they also stipulate that the toxicity of thousands of chemicals produced in or imported to the EU in large quantities be assessed through animal experimentation (Directive 2006/121/EC on the Registration, Evaluation, Authorization, and Restriction of Chemicals [REACH]).

Universities, medical schools, research labs, and some public repositories focusing on theoretical research and education are the main recipients of public R&D funds worldwide. Although data regarding the exact amount of funding invested in research using nonhumans is unavailable, a large proportion of these very relevant budgets³ is usually allocated to basic and applied hard sciences, where animal testing is customary.

In spite of the important role played by governments, the main user by far of animal experimentation is the pharmaceutical industry, which, directly or indirectly, hugely contributes to the demand for animal experimentation.⁴ Other sectors also conduct or commission animal testing, including the chemical, cosmetic and tobacco industries. As in the case of public funding, the amount of private research expenditures involving animal experimentation is unknown, but animal

³ For instance, in 2020, the U.S. public budget for R&D was US\$156 billion (Congressional Research Service, 2020), while in Europe, the total budget of the Horizon 2020 programme for research and innovation (2014-2020) was €76.1 billion (EC, 2022b) and the budget for the new Horizon Europe (2021-2027) was €95.5 billion (EC, 2022c).

⁴ The increase in the pharmaceutical industry's R&D expenditure, and therefore of companies involved in animal experimentation, has been remarkable over the past two decades, from €7.8 billion and \$6.8 billion in 1990 in Europe and the U.S., respectively, to €37.8 and \$64.4 billion in 2019 (EFPIA, 2021).

testing is the norm, and legally compulsory for marketing chemicals and medicines in most countries.⁵

All of the above actors allow for the existence of a major subsector within animal experimentation, which provides them with products and services: that is, the suppliers of animals for research and related services besides animal testing. Such companies supply animals bred or genetically manipulated for research, as well as capture free-living primates and other nonhumans from their natural environments; they also supply biological products such as blood, tissues or organs obtained from animals. In addition, these companies provide research accessories and tools, in vivo tests on animals, training for animal laboratory science and numerous other clinical research services. Although the—very profitable—contribution of this subsector to VIC business pales in comparison with that of the pharmaceutical business,⁶ they constitute a key pillar of it.

In 2020, the pharmaceutical market had total revenues of US\$ 1,112.6 billion (Yahoo Finance 2021), concentrated among a small number of companies, whose resources allow them high lobbying expenditures (Table 1).

Table 1: Revenues and lobbying spending for the top six pharmaceutical companies

COMPANY	LOCATION	2021 REVENUES (BILLIONS OF US\$)	2021 LOBBYING SPENDING IN THE U.S. (MILLIONS OF US\$)
Pfizer (1)	United States	81.28	10.25
Roche	Switzerland	63.15	11.21
Merck & Co	United States	48.70	8.01
AbbVie	United States	56.20	7.00
Johnson & Johnson (2)	United States	52.10	6.08
Merck & Co	United States	48.70	8.01
Sanofi (2)	France	33.69	4.58

Sources: Annual accounts (Revenues) and Opensecrets.org (lobbying) (1) All of these companies increased their revenues compared to the 2020 financial year; however, Pfizer's increase is worth a mention: the company's revenues in 2020 were 41.9 billion dollars, while the 2021 figure saw a 93% increase. The Covid-19 vaccines business are the main reason for this huge rise in revenues. (2) Johnson & Johnson and Sanofi's figures are only for their pharmaceutical segments.

⁵ On December 2022, U.S. Congress lifted the requirement that all new drugs be tested on animals before being tried in people. In place of the 1938 stipulation that potential drugs be tested for safety and efficacy in animals, the law now allows FDA to promote a drug or biologic—a larger molecule such as an antibody—to human trials after either animal or nonanimal tests.

⁶ Labcorp, probably the largest laboratory in the world providing services strongly based on animal testing, had total revenues of US\$ 16.12 billion in 2021 (Lapcorp, 2022, p. F-7).

The total expenditure on lobbying by the pharmaceutical industry in 2021 was US\$ 358 million in the U.S. alone (Opensecrets.org, 2022). This level of investment was unprecedented, and by far the largest figure in lobbying history by corporate business and the top lobby spender sector in the U.S., at least according to the public data available (Opensecrets.org). The second industry by lobbying expenditure in the U.S. in 2021 was the electronics sector, with half that of the pharmaceutical industry. The lack of transparency in EU lobbying prevents us from having the real figures on lobbying expenditure by company and sector in Europe, thus hampering public scrutiny. A very conservative estimate by Corporate Europe (2021), according to inconsistent and incomplete EU public data, accounts for an average of €36 million of lobbying spending per year in the EU by what is called Big Pharma, or the top pharmaceutical companies. Pharma companies and lobby groups also reported employing the notable figure of 290 lobbyists (an estimated 104.75 full-time lobby jobs) in Europe in 2020; this figure does not include lobbyists hired from lobby consultancies.

How the VIC's influence is exercised

The capacity for influencing policy making and public discourse exerted by the vivisection industrial complex is, therefore, colossal, and among the largest, if not the largest, amongst top lobbying industrial sectors in liberal democracies. This economic capacity has expanded the scope and sophistication of its political influence as a major interest group, as has happened with all major corporate interest groups to different degrees over recent decades.⁷ Three main strategies for directly influencing policymakers, the media and, increasingly, also public opinion can be identified: contribution to political campaigns; direct and indirect lobbying; and the dissemination of information via platforms with a scientific or expert profile (like research institutes or think tanks) under its control, including advocacy platforms.

⁷ The pharmaceutical and health products industry is consistently near the top of all spenders when it comes to US federal campaign contributions and lobbying spending. For trends between 1990 and 2022, including the huge lobbying effort conducted in the United States to promote their vaccines during the Covid-19 crisis, see: <https://www.opensecrets.org/industries/indus.php?ind=Ho4>. Also, in Europe, during the pandemic, the pharmaceutical industry further increased its political access and influence in EU decision-making (Corporate Europe, 2020).

In the U.S., for instance, the pharmaceutical industry is consistently among the biggest political spenders on the two dominant political parties, though with a tendency to contribute slightly more to the Republicans (Opensecrets.org).

As for direct and indirect lobbying, three types of lobby groups represent the VIC's interests: in-house lobbyists employed by companies; trade associations that represent their members; and third-party lobbyists for hire engaged either by companies or trade associations. That is, given its resources, all types of lobbying are available to the VIC, which it uses intensively (Almiron & Khazaal, 2016).

The VIC's lobbying strategies follow established patterns. One consists of building and maintaining a network of contacts. The VIC nurtures traditional links between big business and political elites, visits the offices of new politicians and invites old and new contacts to discuss soft issues. When a specific legislative opportunity or threat arises, lobbyists use their established networks to push their agenda (Corporate Europe, 2012). Two notable instances of the VIC's lobbying and networking power were the 2006 US Animal Enterprise Terrorism Act (AETA; which replaced the 1992 Animal Enterprise Protection Act) and EU Directive 2010/63 on the protection of animals used for scientific purposes.

In the U.S., the National Association for Biomedical Research (NABR), a corporate front group representing around 300 institutions involved in animal research, was, among others, instrumental in securing the adoption of AETA, a law that criminalises nonviolent activism in defence of nonhumans and humans in unprecedented ways, while protecting the interests of the global Animal-Industrial Complex. The NABR employed a number of strategies, ranging from providing talking points, smear campaigns, disinformation and cherry-picking testimonies in Congress, to rushing the bill through the legislation (Del Gandio & Nocella, 2014).

In Europe, the tentative language of the future EU Directive 2010/63, introduced in a 2008 Commission draft, was strongly criticised by the biomedical research industry because it placed tight restrictions on issues like invasive studies using primates (Nature, 2008). Due to opposition from the industry, the European Parliament approved a final 2010 version that diluted the legitimate concerns for animals (Abbot, 2010). Members of Parliament criticised the interactions that took place between lobbyists and legislators between the introduction of the 2008 draft and the altered 2010 version as "excessive lobbying" by the drug industry (Harrison, 2009).

A comparative analysis of the VIC's lobbying strategies in the U.S. and the EU shows how in the past the American VIC was more developed and aggressive than its less proactive EU counterpart. The examples above show, on the one hand, that the AETA, like other U.S. laws that censor information on animal abuse, is legislation that was pushed by the industry as a reaction to animal rights activism, and thus explicitly protects the industry. On the other hand, Directive 2010/63/EU was initially meant not so much to protect the industry in the EU as to restrict its use of animals out of a degree of compassion for them. Whereas adoption of the AETA was celebrated by the industry in the U.S., the Directive caused great concern in the European industry and a turning point in its lobbying strategy. The 2008 discussion of the Directive sparked a number of unprecedented lobbying platforms. For the first time, European lobbyists adopted the same criminalising narrative strategy that the U.S. uses to equate animal rights with terrorism, while suppressing compassion and discussion on the ethical dilemma posed by the use of nonhumans in research. The discourse by both the U.S. and European members of the VIC confirms the above. An analysis of the websites belonging to the main U.S. lobbies advocating for animal research exhibits a discourse coalition on the post-1992 criminalization of animal rights. In the EU, the terrorization of dissent was absent until 2008, when the debate around Directive 2010/63/EU stirred the industry towards more aggressive lobbying (Almiron & Khazaal, 2016).

Nowadays, pure lobbying is closely combined with the use of discourse generation tools for manufacturing consent. An increasingly used tool by interest groups, as is the case with the VIC, consists of promoting lobbyists as experts, co-opting real experts, and creating research institutes, information platforms and think tanks to generate often self-serving data, then feed it to policymakers and journalists. This also includes indirect or grassroots lobbying that aims to educate public opinion (the media and citizens) and subsequently move it closer to that of the industry. This strategy increasingly includes platforms that target ordinary citizens, promoting a conviction that animal research plays a positive and essential role in the progress of science and the improvement of human health care. To dissent against this narrative automatically leads to stigmatisation by the industry. Some of the organisations that very intensively advocate for animal experimental-

tion have created online platforms with titles as illustrative as *Animalrightsextremism.info*.⁸

Of course, this does not mean that all content produced by the industry or industry-paid research is biased, but at the very least such strategies reduce the threat that leading experts in a field pose to sponsors' interests and guarantee that those experts with the most convenient bias are funded.

Critical research on corporate power has clearly shown how the economic elites have displayed great skill in supporting their interests beyond mere lobbying to unite efforts at the corporate level with the support of the political elites by means of very effective coalition and network building. The vivisection-industrial-complex is an outstanding example of this. The economic strength behind the VIC is supported by the state and intricately entangled with other key areas of the global economy,⁹ with the result that pharmaceutical companies manage to become influential in the main international health political forums, including the World Health Organisation.¹⁰ This has allowed this industrial complex to settle the narrative by means of increased, and very effective, networking through transnational actor constellations and coalitions that influence policymaking, the media and public opinion. To put it simply, this means that in spite of competing amongst themselves, companies within the VIC are able to work together to disseminate a

8 Some of the most important VIC platforms advocating for animal experimentation in the U.S. are: the National Academy of Sciences; the American Physiological Society; the Federation of American Societies for Experimental Biology; the American Association for Laboratory Animal Sciences; the National Association for Medical Research; the Foundation for Biomedical Research; the National Animal Interest Alliance; the Americans for Medical Progress; and the States United for Biomedical Research. In Europe, there are the following examples: the Federation of Laboratory Animal Science Associations; the European Animal Research Association; Understanding Animal Research; and Animal Testing perspectives.

9 For instance, the three largest asset management firms in the world —Vanguard, Black-Rock and State Street— are the largest shareholders in almost 90% of S&P 500 firms, including Apple, Microsoft, ExxonMobil, General Electric and Coca-Cola. They are also major stockholders in a number of top legacy media in the world, as well as of a number of top pharmaceutical companies and other members of the VIC. This connects the VIC through ownership with many other top corporate sectors and companies (Fichtner, Heemskerk & García-Bernardo, 2017).

10 The pharmaceutical companies are actually funders of the WHO through the GAVI Alliance, an alliance of governments, NGOs and private companies created with the aim of spreading vaccine use around the world. The GAVI Alliance is one of the top ten funders of the WHO (WHO, 2022).

self-serving narrative that is fully aligned with the need for scientific narratives behind the formulation of much public policy and media discourses. This entanglement of interest reflects Mills' elite theory. More recently it has been referred to in public affairs theory as the knowledge-policy nexus (Stone, 2013) or knowledge-interest nexus (Plehwe, 2014). Applied to the VIC, this reveals the capacity of the animal experimentation industrial complex to become the main disseminator of "knowledge" regarding vivisection —shaping policies and public opinion on animal testing.

Reputation vs corruption

The main aim of this chapter was to provide a glimpse into the monumental capacity of the VIC to manufacture social consent through public relations and public affairs, and thereby play a major role in discourse dissemination regarding animal experimentation. As David Nibert put it, "for institutionalised oppression to occur, it must be supported by state power and justified through ideological manipulation" (2013, p. 5). The VIC has both in high doses, and is able to maintain its strong reputation despite the unethical background of its main actor, the pharmaceutical industry.

The pharmaceutical industry is likely the most corrupt business in the world. Abundant research has shown that it corrupts medical science not only through conflicts of interests, but also its funding of medical training and bias in sponsored research, with a systematic tendency toward results serving the industry's interests (Transparency International, 2016; Sismondo, 2021; Sears, 2022). The pharmaceutical industry is also the one that has paid out the highest settlement amounts after trials for negligence or misrepresentation of products (Enjuris Editor, 2022; Wikipedia, 2022). Since this all goes unchallenged, its corruption does not diminish the influence of the VIC but normalises and expands fraud into academia, the media and public opinion: academic research in the field is mostly co-opted by pharmaceutical interests; protesting military animal experimentation is taboo in a society where security fears have overcome fundamental freedoms; the mainstream media are in the hands of governments lobbied by the VIC and working in partnership with it, or of the very same investment funds that control pharmaceuticals and other key industries.

The much-needed move towards alternatives to animal experimentation has typically been obstructed by the VIC. The discussion only exists due to the massive efforts made by animal advocates, backed by independent citizens, who support animal advocacy out of awareness and compassion. Conversely, awareness and compassion are increasingly criminalised by states influenced by the VIC discourse and its vicious fight to maintain dominance for its narrative. However, a close analysis of its political economy and discourse shows that the main goal of said narrative is to conceal the fact that this is not a fight for science, but one for money and power.

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