澳門大學
UNIVERSIDADE DE MACAU
UNIVERSITY OF MACAU

University of Natural Resources and Life Sciences, Vienna

INTERNATIONAL WORKSHOP

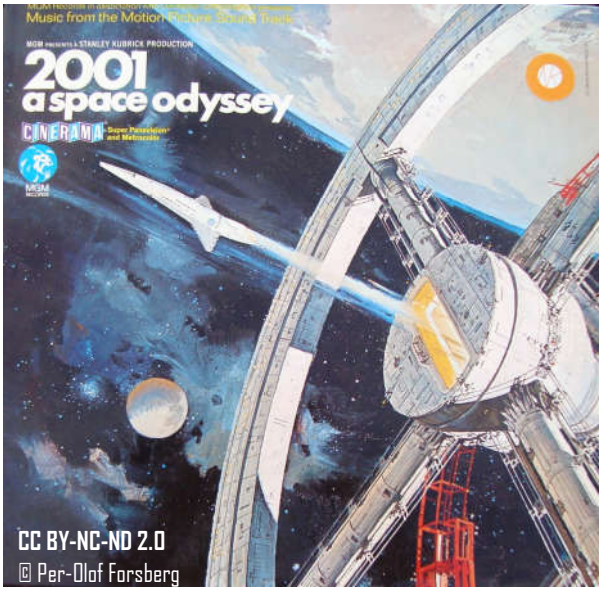
Global Governance and Innovation: *Law and Science Fiction*

Faculty of Law of the University of Macau & Institute of Law of the University of Natural Resources and Life Sciences, Vienna

22 August 2018, Faculty of Law, University of Macau

"Verne's future looks backwards, just as his past looks forwards. It is anticipation in reverse. Verne is both a visionary and a nostalgic, and the particular difficulty of his work is that he happens to be both of these at once."

- **Unwin, T.** (2000) 'Technology and Progress in Jules Verne, Or Anticipation in Reverse', *Journal of the Australasian Universities Language and Literature Association*, 93(1): 17-35.



Conference Details

Location: University of Macau, Faculty of Law E32
Room E32-G0023

Project Coordinators:

Prof. Iris EISENBERGER, Univ.Prof. Mag.iur. M.Sc.(LSE) Dr. Head of the Institute of Law University of Natural Resources and Life Sciences, Vienna Email: iris.eisenberger@boku.ac.at	**Prof. Rostam J. NEUWIRTH**, Mag.iur., LL.M. (McGill), Ph.D. (EUI) Coordinator of the Master in International Business Law Program (IBL) Faculty of Law, University of Macau Email: rjn@umac.mo

Conference Itinerary

Wednesday, 22 August 2018

9.00 Registration

09.30 -10.00 Welcome Address and Group Photo

- Prof. TONG Io Cheng, Dean of the Faculty of Law, University of Macau
- Prof. Rostam NEUWIRTH, University of Macau

10.00 – 10.30 Keynote Address

- ***Machine-Learning: A Narrative Device About Law*** – Iris EISENBERGER, University of Life Sciences (Vienna, Austria)

10.30 -11.00 Coffee Break

Session I

11.00 -12.30 Global Governance & Blurred Categories

Chairperson: Prof. Rostam J. NEUWIRTH

1. ***Law when the Dead Relive: If "Cryonics" Works in Hundreds of Years Later*** – Lynne LONG
2. ***Human Beings or Super Artificial Intelligence - That's a Question*** – Dai YIHAN
3. ***The Concept of Legal Personhood: Current Developments*** – Thomas BUOCZ
4. ***Fintech: How Should We Regulate the New Reality?*** – Alexander MOLOTNIKOV

12.30 - 14.30 Lunch Break

Session II

14.30-15.30 Protection from and of Machines as Governance Challenge

Chairperson: Mag. Thomas BUOCZ

5. ***Autonomous Cars and the Black Box of AI – A Human Rights Perspective*** – Sophia SAN NICOLÒ
6. ***Beware Robots on Loose: Emerging Threats From Killer to Vulnerable Robots and Contemporary Legal Limitations*** – Muruga Perumal RAMASWAMY
7. ***Artificial Intelligence and Collusion in Competition Law –*** Alexandr SVETLICINII

15.30 -16.00 Coffee Break

Session III

16.00-17.30 Governance in (Cyber-)Space

Chairperson: Prof. Iris EISENBERGER

8. ***From Science Fiction to Science Fact: A Necessity for Intellectual Property Rights Protection in Outer Space*** – Zhijie CHEN
9. ***Walled Gardens of the Internet in Times of Deep Learning*** – Danny FRIEDMANN
10. ***Head in the Cloud: Cloud Computing Emergency Practices in the Absence of Legal Regulation*** – Yaroslava KUCHINA
11. ***Is it OK to Dox a Nazi? The Concept and Ethics of Digital Resistance*** – Célia F. MATIAS

Concluding Session

17.30-18.30 Final Discussion: Future Perspectives

- ***Concluding Remarks –*** Iris EISENBERGER & Rostam J. NEUWIRTH
- ***Discussion***

End of the Conference

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Global Governance and Innovation: *Law and Science Fiction*

Conference Outline

The international workshop "Global Governance and Innovation: Law and Science Fiction" examines what regulatory challenges arise from rapid innovation in science and technology and discusses the role of Science Fiction as provider of narratives in the global governance debate. The keynote address and three sessions comprising nine presentations throughout the workshop cover regulatory questions across different fields such as artificial intelligence (AI), autonomous cars, internet governance, and deep learning. The workshop is co-organised by the Faculty of Law of the University of Macau and the Institute of Law of the University of Natural Resources and Life Sciences, Vienna. It will take place on 22 August 2018 at the Faculty of Law of the University of Macau.

Project Coordinators:

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Participants & Abstracts

Prof. Iris EISENBERGER

Iris Eisenberger is Professor of Law and Head of the Institute of Law at BOKU University since January 2016. She was faculty member at Vienna University's Law Faculty, Department of Constitutional and Administrative Law and has been visiting professor at the Munich Center of Technology in Society at the Technical University Munich, the Mekelle University in Ethiopia and the Macau University. In addition, she held visiting positions at the European University Institute in Florence, Italy and the University of Freiburg, Germany and was a Post-doctoral Fellow at the Program on Science, Technology and Society at Harvard University (Erwin Schrödinger Fellow).
She received her habilitation for Constitutional Law, Administrative Law and the related fields of European Law for her book on Innovation in Law from Vienna University in 2014. She obtained her PhD in Law from the University of Graz, Austria for her thesis on State Aid and Film Production and a M.Sc. in Political Theory from London School of Economics and Political Science (Chevening Scholar).
Her research focuses on law and innovation, technology law, research law as well as didactics of law. She has wide experience in interdisciplinary research and in running and participating in nationally and internationally funded research projects in the field of law, technology and society.

Lynne Linyun Long

Lynne Linyun Long is a master student of International Business Law (IBL) Program in the Faculty of Law of the University of Macau.

Abstract
Law when the Dead Relive: If "Cryonics" Works in Hundreds of Years Later

On 30 May 2015, under the help of two surgeons from the United States and at the cost of 750,000 RMB (≈117,375 US dollars), Du Hong, a 61-year-old science fiction author of China, had her brain cut off from the body right after her death and been sent from China to Scottsdale Arizona for cryogenic freezing at the Alcor Life Extension Foundation, where she would at rest in long-term under liquid nitrogen at a temperature of -196°C with a new name, A-2833. She was Alcor' 138th patient, and the first Chinese who experienced cryonics. She and her family believed the inevitable advancements in medical science could eventually wake up her and cure her pancreatic cancer, just like modern medicine could easily save a patient with Spanish flu in 1918. Soon China's first cryogenics subject was launched in the Shandong Yinfeng Life Sciences Research Institute in August 2017.

People's pursuit of immortal is an eternal topic around the world since love and hope would never die. This paper discusses when the dead really revive someday, how law could balance the dead and the living, and prevent the shock and chaos of the massive resurrections bring to the dead themselves, their family, society, economy, countries, resources as well as the whole world.

Specifically, it would firstly talk about what resurrections are legal or illegal from a criminal law perspective, and then analyze the dead's individual rights, such as rights of identity, property, marriage and politics. Besides, it would argue the restriction of resurrected times because regarding to limited social capacity and natural resources, choice must be made between continued reviving the dead and giving birth to babies. After that, it would indicate necessary judicial cooperation between countries as the resurrected process seems a new style of transnational business that a person might die in one country and relive in another country. Last, it would provide some recommendations to cryonics based on above arguments.

Dai YIHAN

DAI Yihan is a Ph.D. candidate with particular interests in data protection law and new technologies. Prior to enrolling at the University of Macau, she worked for 4 years as a lecturer in the Guangxi University of Finance and Economic. She holds a master's degree in International Business Law from the Chinese University of Hong Kong and a B.A. in Economic Law from the East China University of Political Science and Law. She had half a year's stay at the University of Californian, San Diego as a visiting scholar, fully funded by China Scholarship Council.

Abstract
Human Beings or Super Artificial Intelligence - That's a Question

The human being is going to be more powerful in the future, so is artificial intelligence (AI). If AI gets self-conscious and pretends to be human, how can human beings do to prove that they are not AI?
Thanks to the new technology called CRISPR, scientists can alter a human being's genetic makeup by changing, deleting or replacing gene. With such techniques, a person's genome might be edited before birth. This technology opens the door for creating "designer babies" and arouses "super-baby" concerns. Human beings are playing God with their genes.
Scientists are racing to replace human organs with 3D printers. The pioneers of 3D printers believe this technology offers the potential to create complex organs, such as hearts and livers which could then be used in human transplants from scratch. Human beings are playing God with bioprinting.
In the field of AI, human beings are playing God by trying to make machines smarter and better serve them. The movie "Ghost in the Shell" portrays a world that people whose bodies have been damaged or people who can afford it have their human bodies replaced with a full prosthetic replacement. The main character, Motoko Kusanagi, is a human brain in a machine body. It's not just science fiction. We are moving towards a future where human beings merge with AI. Researchers are creating new kinds of enhancements for the human body in which man and machine essentially become one.
In the movie "Transcendence", Dr. Will Caster is the leading researcher in the field of AI, working to create a sentient machine that combines the collective intelligence of everything ever known with the full range of human emotions. After Doctor Will Caster has been poisoned by a polonium-tipped bullet, his fading consciousness was transmitted to a supercomputer. Then a man said to Will in the computer: "Can you prove you're self-aware?" Will fell silent for a moment and said: "That's a difficult question, can you approve that you're?" The Line between the AI and human beings is completely blurred.
This raises a question for the future: if Super-AI (AI that gets self-consciousness and emotions) comes into being, pretending to be human, how can human beings do to prove to others that they are not AI? What's the essential difference between human beings and Super-AI that gets self-consciousness and emotions? Imagine that Super-AI, which may be ubiquitous, could dominate humans and rapidly infiltrate every facet of our lives. Is it possible that the WeChat you receive is not really sent by the other party, and the phone you receive is not really called by the other party, but Super-AI? In order to prevent Super-AI from doing something bad in human being's name, it's important for human beings to prove to others that they are not Super-AI before doing something important, but how?

Thomas BUOCZ

Thomas Buocz is a research assistant and a PhD fellow at the Institute of Law at the University of Natural Resources and Life Sciences Vienna. His main interests and research areas are technology and innovation law, media law, and legal theory. At the Institute of Law, he works within the research project „SCALINGS".
He studied law at the University of Vienna and completed a semester abroad at the University of Copenhagen. While studying, Thomas Buocz worked as a research assistant at the Institute of Constitutional and Administrative Law at the University of Vienna and at the Institute of Law at BOKU University. Furthermore, he gained experience as a legal assistant at the Vienna law firm Dr.in Maria Windhager, as a local representative of the third district of Vienna, and as an intern at the Verfassungsdienst im Bundeskanzleramt (Section for Constitutional Matters at the Austrian Chancellor's Office).

Alexander MOLOTNIKOV

Dr. Molotnikov obtained his PhD Obtained at Moscow State University in 2006. He is Associate Professor, Department of Business Law, Law Faculty of the Lomonosov Moscow State University (http://www.law.msu.ru) and Executive director of Scientific-Educational Center (Law and business MSU).
He is a member of many professional associations, such as Chairman of the board of Nonprofit Organization - Business initiative support center 'Startup' and Advisor on legislation issues to the Business Russia (Delovaya Rossia) all-Russia Social Organization (www.deloros.ru) as well as Member of the National Register of Independent Directors at the Russian Union of Industrialists and Entrepreneurs – RSPP (http://www.rspp.ru/).

Sophia San Nicolò

Sophia San Nicolò is a research assistant and a PhD fellow at the Institute of Law at the University of Natural Resources and Life Sciences Vienna. Her research focuses on innovation and technology law. She is a team member of the research project "AUTO-NOM".

She studied law at the University of Vienna as well as at the University College Dublin (Ireland). After graduation, she completed her court praxis in Vienna. She obtained a Masters degree in law from the University of Trento and Verona (Italy) and worked at the Law firm Brandstätter in Bolzano (Italy).

Abstract

Autonomous cars and the black box of AI – a human rights perspective

With the promise to increase road traffic safety, autonomous cars are being launched into the market. However, recent accidents have shown that even the most advanced systems still make mistakes that can have fatal consequences. Efforts to improve the cars' performance are compounded by the fact that autonomous vehicles are increasingly trained on Machine Learning models and in particular with Deep Learning. In this way, the car develops decision paths that we cannot understand, since we have no insight into the functionality of the learning and decision making process. The so-called black box of AI is challenging in different aspects and stages: it makes it difficult to (1.) predict, (2.) control and (3.) give account for the cars' actions. From a legal perspective, the question arises whether the delegation of black box decisions to algorithms that we cannot understand should be subject to constraints. Especially in the context of autonomous cars, where the decisions pose a risk to life and physical integrity, human rights can be an important guiding principle in tackling this question. In particular, the positive obligations under Art 2 and 8 ECHR require a state to secure the right of life and physical integrity of individuals by putting in place effective provisions. As the European Court of Human Rights emphasises, the positive obligations apply in particular in the context of activities that are dangerous by nature. Accordingly, it can be argued that Art 2 and 8 ECHR oblige the state to set a legal framework for autonomous driving and, more precisely, to establish the conditions and limits for the introduction of Machine Learning trained cars. The ECtHR leaves it to the state to choose effective means in order to fulfil its positive duties. Thus, appropriate measures need to be identified and developed. In this regard, the problems arising from black box decisions in autonomous cars have to be addressed. However, potentially conflicting rights, such as the right to property and the freedom to conduct a business, must also be taken into account.

Muruga Perumal RAMASWAMY

Dr. Muruga Perumal Ramaswamy is an Associate Professor of Law at the University of Macau. He teaches public international law, international economic law, foreign investment law and business law and currently leads research projects in international law and commercial laws. He serves in various international organizations and was the past Secretary of the International Law Association, Hong Kong. He has obtained his Ph.D. in International E-commerce Law and M.Phil. in International Law. His LL.M. was on Maritime and Labour Laws and he also holds a Master's degree in International Business Management. He is trained in common law during his bachelor degree and studied constitutional law at the Yale University. He was a past research fellow at the Centre for Research at the Hague Academy of International Law, Netherlands and a current visiting fellow at the University of Cambridge, United Kingdom. He has been associating with the works of the United Nation's Commission on International Trade Law (UNCITRAL) and is instrumental in organizing its joint international conferences in Macau SAR in recent years.

Abstract

Beware Robots on Loose: Emerging Threats From Killer to Vulnerable Robots and Contemporary Legal Limitations

The proposed paper aims to examine the emerging incongruence among national legal standards in addressing threats emanating from ever expanding functionalities of robotic technology. The paper will focus on a select set of emerging legal issues arising in specific contexts, ranging from the use of autonomous decision making weapons and killer robots to data vulnerabilities, in robotic functioning. The paper will highlight the growing disparity in national legal standards in addressing the related threats and will evaluate the sufficiency of pertinent norms of international law. The paper while exploring the means to improve related legal mechanisms will finally highlight the importance of a multifaceted approach and interdisciplinary solutions.

Alexandr SVETLICINII

ALEXANDR SVETLICINII is Assistant Professor of Law at the University of Macau. Dr. Svetlicinii received his law degree at the Free International University of Moldova, his LL.M in International Business Law at the Central European University, and Master of Research in Law and his PhD in Law at the European University Institute. His primary fields of expertise are competition law, international trade and investment law, and alternative dispute resolution. Dr. Svetlicinii served as a nongovernmental advisor to the International Competition Network and as a legal expert in a number of research projects conducted by the EU Commission.

Zhijie CHEN

Dr. CHEN Zhijie is a PhD graduate of the Faculty of Law, the University of Hong Kong and he is currently serving as a part-time lecturer in Jinan University of China. His main research interests cover intellectual property rights, space law, the WTO Law and China. His educational background is diversified since he graduated with degrees in law from the Mainland China (LLB), Macau (LLM, UM) and Hong Kong (MPhil & PhD, HKU). Dr. Chen has published numerous academic articles in some international and Chinese law journals. He has also traveled to some countries and presented academic presentations in certain international conferences organized by well-known research institutions and universities, including World Trade Institute, Society of International Economic Law, American Society of International Law, Chinese Law Society, National University of Singapore, University of Washington, Chinese University of Hong Kong and University of Adelaide.

Dr. Chen has been a qualified Chinese lawyer and practiced in a prominent Chinese law firm for years. He has provided legal services to a number of corporations in a variety of industries in China, ranging from manufacturing, environmental protection to pharmaceutical and so on. Those involved services include intellectual property, merger and acquisition, securities transactions and corporate governance related legal affairs. He also represents clients in various civil and commercial litigation as well as business transactions.

Abstract

From Science Fiction to Science Fact: A Necessity for Intellectual Property Rights Protection in Outer Space

The exploration of universe has turned from science fiction to science fact. Accordingly, the regulatory environment for outer space activities has entered the era of space commercialization. Given that space industry requires for extremely high and innovative technology, and its applications are closely connected to copyright and trademark, it is therefore necessary to consider the legal issue of intellectual property (IP) protection in outer space. Yet, the intellectual property international treaties have not explicitly considered the issue of IP protection in outer space in their provisions, and in the provisions of the five outer space treaties, none explicitly address IP. This might substantially discourage states and private entities from engaging in space activities. This paper intends to look for a legal approach that could permit IP protection in outer space in a more pragmatic, enforceable and feasible manner. It is argued that the construction of a new IP legal regime specifically for outer space is unlikely to succeed as this approach lacks a solid theoretical foundation. Nevertheless, the provision of Art. VIII in the Outer Space Treaty, can be legitimately employed as a means of deviation to indirectly permit the protection of IP in space under the existing international legal framework.

Danny FRIEDMANN

Danny Friedmann is Visiting Professor of Law at the School of Transitional Law, Peking University in Shenzhen. He was invited as International Guest Speaker of the EU Centre for Global Affairs at the University of Adelaide in October 2016, and Castetter Visiting Scholar at California Western School of Law in San Diego, in July 2016. He is a Principal Commentator and External Examiner at the University of Macau since 2016. In October 2017 he was a visiting scholar at the University of Macau.

Friedmann received his PhD degree from the Chinese University of Hong Kong and holds a Master's degree (meester in de rechten) of the University of Amsterdam, the Netherlands. He also studied business at the Nyenrode Business School in Breukelen in the Netherlands and McGill University in Montreal, Canada.

Dr. Danny Friedmann is an award-winning researcher and lecturer of intellectual property law, especially trademark law, geographical indications and patent law.

His research interests include intellectual property law, trademark law, geographical indications and internet intermediate liability.

Abstract

Walled Gardens of the Internet in Times of Deep Learning

Safe harbour provisions were introduced in the U.S. and EU to provide online service providers (OSPs) with immunity against the liability of copyright and trademark infringements by third parties. However, these safe harbours turned out to be neither safe for OSPs nor for proprietors of IP rights. The precondition for invoking safe harbour provisions; that one remains passive and only acts reactively on specific infringement information, has led to wilful blindness by OSPs. Safe harbour provisions contribute to a climate where the behaviour of OSPs is dominated by short-term business interests which are neither conducive to the enforcement of IP rights by the OSPs nor to legal certainty for proprietors, internet users and OSPs alike. Settled case law does not allow a general filter obligation for OSPs and plaintiffs have to prove the defendant's specific knowledge. These requirements were never fair according to the Walled Gardens' doctrine (which will be expounded in this article) and a fortiori is untenable since the advent of omniscient Artificial Intelligence.

OSPs were always best positioned to filter infringing use of content proactively. Deep learning structures algorithms in layers to create an "artificial neural network" that make it possible to learn and make intelligent decisions about what constitutes IP infringements, which makes it impossible for OSPs to remain ignorant. This article therefore asserts that the safe harbour provisions must be replaced by strict intermediary liability and thus a general filter obligation which will further lead to automatic enforcement. As will be pointed out in this article, this transition is not as dramatic as it might seem.
Safe harbours provisions were drafted at a moment when OSPs, such as social media, still needed to be developed and when machine learning was in its infancy. They do not protect proprietors against IP infringements and they do not protect OSPs against the liability in case of these IP infringements. If one extrapolates the developments in machine learning one can see that advocating safe harbour provisions and a resisting a general filter obligation has become a rearguard battle and that implementation of strict liability for OSPs is ineluctable.

Yaroslava KUCHINA

Yaroslava Kuchina currently works at the Department of Criminal Law and Criminology; Far Eastern Federal University. Yaroslava does research in Public Law, Legal Fundaments, Gender Victimology and Criminal Law of Russia. The current project is 'Cloud Computing Legal Regulation and Contractual Issues'.

Abstract

Head in the Cloud: Cloud Computing Emergency Practices in the Absence of Legal Regulation

In recent years, Cloud Computing technology has progressed rapidly and now it is used commonly both in business activities and in public sector. Martin Chavez, Chief Information Officer of Goldman Sachs, named the Cloud Computing "back to the future" and the third main shift in the technological law, the dominant paradigm of nowadays computing technologies. Cloud Computing becomes more economically attractive literally from day to day. It limits the needs for computer networks, servers, PCs what makes all the process at least ten times cheaper. The International Data Corporation (IDC) prognoses the deployment of 80% of new commercial enterprise apps on the base of cloud platforms. That all cause the great interests in the Clouds in every state that highlighted IT as a strategically important part of the market.
However, in some states we see the tendency when contractual practices go further than the law that regulates the IT-markets. Consequently, the legal sphere regulating Cloud Computing is divided significantly and the regulation in public sector Cloud Computing are totally different from the standard-term contractual practices that become quite controversial without judicial practices. Thought the contracts are different from each other even if the Cloud Computing models are the same. As a result, such incoherence in contracts will lead the incoherence in court practice.

Célia F. MATIAS

Célia F. Matias is a Ph.D student at the Faculty of Law of The University of Hong Kong, where she has also obtained a Master of Laws in Information Technology and Intellectual Property Law. She is interested in law, philosophy and technology, and her current research analyzes the prohibition of private justice in contemporary legal systems, having in mind the dynamics of social and political intervention that have emerged in the online environment.
A graduate of the Faculty of Law of the University of Lisbon, Célia has previously worked as a lawyer in Portugal and Macau.

Abstract

Is it OK to dox a Nazi?

The concept and ethics of digital resistance

With its strange mix of anachronist and postmodern, the question "is it ok to dox a Nazi?" could have been, circa 2008, the title of a cyberpunk movie. A mere decade later, the political and social landscape have turned it into a real concern. Taking doxing as a starting point, this work focuses on a set of online behaviors that we may call digital resistance. These practices typically encroach upon rights and interests (one's juridical sphere), namely privacy and reputation, possibly but not necessarily through the use of intrusive or fraudulent means, for purposes of enforcing certain values or principles subscribed by the perpetrator.
So long as it remains peaceful, online collective action, namely the mobilization and organization of protests through social media platforms, may be protected by freedom of expression and association. In contrast, doxing and other forms of "hacktivism" appear less likely to receive such protections as, by intruding into the sphere of those they target, they may be deemed to imply a certain level of violence.

Emulating the worried online vigilantes of the title, this article seeks to determine in what circumstances can digital resistance be "ok". Given the diversity of theoretical and constitutional formulations of the concept of resistance, an enquiry on its essence and limits is necessary. Does resistance presuppose violence? Does the right to resist require a crisis in the constitutional order, or can it be summoned to situations in which that order still remains intact? Is it a defense of the State, against the State, or can it be invoked horizontally, among equals?

A fundamental part of this analysis is the identification of possible grounds for resistance. Whereas trivial reasons are obviously excluded, the identification of values and principles worthy of being protected by acts of resistance requires careful consideration. The concepts of resistance against oppression and defense of the constitutional order, extracted, respectively, from the French and German texts, are significant, albeit in need of clarification. They lead us to the ideas of freedom, democracy, constitutional principles and fundamental rights, which, themselves, summon extensive theoretical discussion.

But how can a practice such as doxing - with its ease of execution and negligible risk - be deemed a form of resistance and justified by the right to resist? Can small acts protect high values? The character of ultima ratio that is usually ascribed to the right to resist seems at odds with such hypothesis. In an attempt to overcome this objection, the final part of this study analyses the concept of "small scale right to resist", coined by Arthur Kaufman, and his compelling argument that tyrannies should be fought before they come to be.