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# 7 Three scenarios of responsible drone journalism

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## Introduction

Since the turn of the millennium, scenario development has become a new buzzword, particularly in business and governance. Therefore, we begin this chapter by crushing a widespread myth: Scenarios are not predictions (Van der Heijden et al., 2002). Scenarios are made when predictions are meaningless or out of reach. Subsequently, we suggest that a scenario might be considered a coherently structured speculation (van Notten, 2006) on aspects of a phenomenon based on a variety of accessible data.

Scenario building has proved useful to start debates on future society, especially when we otherwise might be overwhelmed and scared by the many uncertainties in a field.

In his book on surviving the techstorm, Nicklas Bergman (2015) wrote that *planning for uncertainty* is “not about trying to guess the one outcome that will occur” (p. 179). Rather, he pointed out, planning for uncertainty means being prepared for the multiple possible outcomes of an issue while trying to understand the most likely outcome. We think that is a good way of looking at this.

On the Internet, there is a jungle of websites specializing in scenario building. The examples and steps provided may at first glance look fascinatingly simple and convincingly clarifying. But by choosing such an approach for this last chapter, we of course do run the risk of simplifying complex issues that go far beyond journalism. One of the things we discovered was that scenario development requires from facilitators that the purpose and tools for the process be explicitly decided beforehand; a scenario will only be good as far as it goes.

Simultaneously, the scenario approach aligns with the basic principles of responsible research and innovation (RRI) that were introduced in Chapter 1 and that form the basis of this research project. Future orientation and foresight are strongly built into the responsible innovation paradigm. Researchers and stakeholders are encouraged to engage actively in ongoing

developmental processes, for instance in visual surveillance technologies in the making. They are invited to raise public awareness in a number of ways, in which the first and foremost task is “to ask what futures do we collectively want science and innovation to bring about, and on what values are these based” (Owen et al., 2013, 37). Thus, we believe that in order to answer what responsible drone journalism is in an RRI-context of anticipation, reflection, deliberation and responsiveness, scenario development is a good place to start the broader discussion – and to finalize this book with an open ending.

In the following, we will first discuss opportunities and dilemmas of scenario development as an exploratory approach. Next we will sketch three simple scenarios of responsible drone journalism and finally, we will suggest ways that readers of this chapter might engage in developing scenarios that are meaningful and relevant for them – in their particular local contexts.

### **Further definitions of scenario development**

Historically, scenario development emerged from strategic planning in the military after the Second World War. The concept now refers to a variety of approaches by businesses, governance, foresight studies and participatory future initiatives. When the European Commission (2017) used scenario development for mapping the future for research and innovation policies in Europe, the report described only two possible outcomes: negative – the trends go on unmanaged and uncontrolled, or positive – society takes action. We hope there are more ways to go within one or the other of these outcomes. Normally, prominent future researchers prefer to provide at least four to five scenarios to play with. Scenarios are intellectual tools to help imagine a *variety* of future trajectories, and as van Notten (2006) points out:

Scenarios are consistent and coherent descriptions of alternative hypothetical futures that reflect different perspectives on past, present, and future developments, which can serve as a basis for action.

In his comprehensive review of scenario characteristics, van Notten differentiates between educative scenarios, in which exploration and awareness raising is a main aim, and scenarios as decision support or as pre-policy research. In practice, he concludes, scenarios are typically hybrids of explorative approaches and pre-policy research. They are often conducted in two steps; exploratory approaches usually provide a necessary first overview, but tend to be too general for decision making.

Van Notten also distinguishes between process-oriented scenario development to promote learning and communication skills, and product-oriented scenarios, which focus more on the end products and less on the processes.

Also, scenario characteristics might be split into goals, design and content (van Notten, 2006).

That is, they have capability to forecast dilemmas and opportunities based on vague data. We know from technology history that in general, it is very challenging to foresee the roles or successes of new devices in future communication. For example, ubiquitous technologies such as smartphones and the Internet were initially developed only for special purposes; the Internet for scholars (1969) and smartphones for business people (1993, Nokia Communicator).

Emergent technologies, of which drones are a typical example, often start in the military and are later sold to the civilian mass market. No wonder there often exists a long-lasting anxiety and suspicion toward new technologies among large groups of people. In literature, this phenomenon and natural attitude is often defined as techno-pessimism. At the other end of the same continuum we find the techno-optimists (Thierer, 2010). Techno-optimists, in this case drone optimists, are those who might benefit the most from the new technology, like manufacturers, sellers and “heavy-users,” often hobbyists. In addition, law enforcement officials, architects, property brokers, firemen, rescue workers and journalists are among the professional groups that take advantage of drone technology in their daily work.

Drone footage is a ubiquitous element of artistic storytelling in the fiction side of media productions like movies, TV series and other forms of entertainment. You just cannot avoid drone footage when watching entertainment. And still we know fairly little about the further adoption and adaption of drones by news media and how, for instance, drone traffic, in general, might be regulated in the near and distant future. Therefore, we wanted to play the role of futurists on these last pages of the book.

The scenarios we sketch out are simple in several respects: They are based on weak signals or early warnings that emerged from empirical data (Ansoff, 1975; Ansoff, 1980). The weak signals mostly originated from online news sources and related to, for instance, photo competitions and awards, interactive map and app development, educative events, new legislative rules in the United States and upcoming EU rules as well as discussions on nano-drones and new threats by hostile drone environments.

We chose to focus primarily on one contingency for the further spread of responsible drone journalism, namely, the use of bans as a legislative means. The threat of bans is currently at stake in many countries, and the threat is real; governmental bans are issued with varying implications. For shorter or longer periods of time, total bans have been implemented in authoritarian countries as well as in a social democracy such as Sweden (see Chapter 2).

The drafted scenarios are simple also in the sense that they are not based on focus group discussions, public debates or other staged events but on written data collected for the study. Van Notten’s typology proved

to be particularly applicable to the scenarios and helped contextualize the exercise.

### **First scenario: drones everywhere**

Based on existing empirical data on drones, our first scenario is that drones will become ubiquitous everyday tools. In journalism, this means that aerial imagery of everyday situations and events will be the new normal. An early indication of the upcoming normality of drone footage in journalism is found by looking at recent international photojournalism awards. For example, the *New York Times* photographer Josh Haner was awarded Pictures of the Year International Awards in 2017 for his documentary project on climate change. Haner has used camera drones in his work since 2012 (Estrin, 2017). The same year, the photographer Sami Kero from the *Helsingin Sanomat* won the prestigious Daily Press Awards at the International Photojournalism Festival in Perpignan. His winning series of Finnish ice hole swimmers was captured by a camera drone (Koppinen, 2017).

Awards in professional photo competitions are prestigious markers of new trends in journalism, and the symbolic power of a jury's decisions should not be overlooked. The use of drones for journalistic purposes spread from entrepreneurs and innovative newsrooms to the rest of the news industry. Haner predicts that especially the miniaturization of drone technology brings drone journalism as a newsgathering tool one step further. Without hesitation, he claims that,

[j]ust like the influx of digital cameras and camera phones created a saturation of imagery, we're going to have to adapt and figure out how we can bring our creativity to these new technologies. – I think it's only a matter of time before we have micro drones with high-quality cameras that reporters can take into the field.

(Estrin, 2017)

The increasing demand for drone journalism education is another clear signal in support of the *drones everywhere* scenario. As the first drone journalists from 2011 to 2015 typically operated mostly in the new online cultures of learning and were self-taught, the evolving next wave of drones in journalism, from 2015 on, have created a demand for more systematic education in drone journalism. Many local newsrooms invest in drone boot camps aimed at efficient drone learning for their journalists and photographers. These are signs of responsible drone journalism, as are new licensing requirements for professional drone operators in many countries.

From the beginning, dronism has benefited from hobbyists and activists who have provided drone footage to the newsrooms. This model of

networked journalism (Beckett, 2008), in which amateurs and professionals cooperate, plays an important part of this first scenario. Even if we should be critical toward marketing messages such as “eventually drones will be in every household” for avoiding the hype-effect, the number of drones sold for civilian purposes does grow exponentially. The increasing flow of user-generated content is well known from ubiquitous smartphones, even though user-generated content is rarely mentioned by news organizations (Wardle et al., 2014). This could also be the case with user-generated drone footage. We see more aerial imagery, but photographer bylines are typically missing.

The *drones everywhere* scenario is based on the assumption that legal frameworks will be developed to ensure that the drones will be available for the citizens and entrepreneurs to innovate new drone-related practices and services. The scenario consists of only modest regulation, which will be regularly updated and changed by the politicians based on feedback from all parties involved, including drone operators and authorities as well as civilians.

As pointed out in previous chapters, the legal framework for drones is still under construction in different parts of the world. But just by monitoring the situation in Europe and in the United States, it appears that in general, politicians are very positive to the potential of drones.

In the United States, the FAA in 2016 opened up for civilian drones in many businesses, including journalism. This legislative change was meant to ensure that guidelines for the responsible use of the drones were followed.

In similar vein, the European Union aims at harmonizing drone regulation in Europe. The EU plans to introduce new drone rules in 2018, and according to the new EU rule drafts, there will be three different categories for drone activities: open, specific and certified. The open category is mainly for hobbyists who will not need any flying permits. The second category could include, for example, the aerial packet transportation of service providers. The third, certified category is created for heavy-weight drone operations such as drone taxi services. This category consists of detailed instructions and rules, and special permits and risk assessments are needed. Hearings of the upcoming EU drone rules (Helsinki 22.8.2017) indicate that there will be a transfer time, at least until 2021, for all the member countries to adjust the new rules to national legislations.

Moreover, the European Union plans to create a special airspace for drones called U-space. This lower airspace will develop its own traffic management systems (Ec.europa.eu, 2016), and the services of the new U-space are planned to begin around 2021, with full services available tentatively in 2030.

Interestingly, according to the new EU rule drafts, drone piloting will require more systematic education in the future, especially when flying over 50 meters. Online tests are developed, and probably also practical tests in certified institutions. The highest possible altitude for the drones will be 120

meters. In the near future, the EU will also require that drone manufacturers and retailers become responsible for constantly updating the geofencing and safety features of the drones that they sell. This first scenario, *drones everywhere*, is indeed the most positive one and might also be also called the “Drone Age” (Economist, 26 September 2015).

### **Second scenario: total ban of camera drones**

The second scenario is based on the assumption that all the positive developments of drone journalism will be interrupted by one or more fatal drone incidents. This scenario is named the *total ban of camera drones* and is a so-called worst-case scenario.

Only one devastating incident might be enough to ground all current drone activities at a local or national level. So far, thousands of incidents in the air caused by migrating and other birds are reported (Wired.co.uk, 2017), and some of these cases cause serious problems for airplanes. For example, a US Airways plane had to execute an emergency landing into the Hudson river in New York because it was hit by a bird on takeoff from LaGuardia airport (CNN.com, 2009). If the bird had been a drone, the consequences might have been fatal.

Great dangers lurk, especially if drones are operated near airfields or at high altitudes, close to commercial airline routes. Globally, there are already almost 100 reports that document the threats to airplanes by drones, mainly caused by a few overenthusiastic hobbyists. No one knows yet precisely what kind of consequences a crashing drone would cause, but one can foresee serious problems, especially if the drone smashed into the turbines (Wired.co.uk, 2017).

Even before any fatal drone incidents, many countries have banned the use of drones as a preventive measure – from authoritarian Nepal to liberal democratic Sweden. In 2016, Sweden temporarily banned the use of camera drones after intelligence authorities warned that drones might be used in terrorist operations in the country. The local drone industry, and also media organizations, accused the government of harming their business interests with the ban, which was based on century-old legislation. In the summer of 2017, the Swedish government announced new rules for the use of drones and ended the total ban. However, the Swedish case demonstrates the ease with which a total ban might be implemented, if needed.

Another threat often disseminated by the new media is the use of drones for terrorist attacks. The *New York Times* (September 23, 2017) published evidence that, for example, The Islamic State, ISIS, used small consumer drones for their warfare in Iraq and Syria. US military sources argue that these “airborne improvised explosive devices” are causing a global threat. Furthermore, according to the story, in the United States “the authorities

voice increasing concerns about possible Islamic State-inspired drone attacks against dams, nuclear power plants and other critical infrastructure” (Schmitt, 2017).

### **Third scenario: drone mosaic**

Our third scenario, the *drone mosaic*, is taking the middle path between the two scenarios already explored here. Drone regulations vary from country to country, and even year by year. An interactive world map developed by a blogger and traveler provides indications of the full spectrum of operative drone regulations, from total bans to only modest regulation. (Polat, 2017; Simpson, 2017). This data visualization was published with the help of Google maps and is also available as a smartphone app. The map, split into four color-coded categories, should be critically consumed, as users frequently detect new errors. But it does serve a function as the first rough draft of a global drone mosaic in the making. As of September 22, 2017, the map indicates that there are 74 green countries from United Arab Emirates to Puerto Rico, and 40 yellow countries from Austria and Belgium to Vietnam and Vanuatu. Green means that “drone use is generally allowed,” and yellow that “drone use is limited or may require cumbersome registration processes.”

Perhaps most interestingly, 40 countries have declared “the total ban” or are “heavily restricted” for the use of camera drones. These “red” countries include a wide spectrum of states and areas, starting from Antarctica, Bangladesh, Bahrain and Brunei, and ending with Vatican City and Venezuela. Altogether, 85 countries or areas were categorized as “gray,” meaning “no data” is available or there are “no defined or applicable UAV laws in the country.” Many of those “gray” countries are in Asia, Africa or South America, but also South Korea was in the same category. Indicatively, neighboring countries could have totally opposing drone rules, like “green” Arab Emirates and “red” Oman and Qatar (Google Maps, 2017). Based on Polat’s map, more than 100 countries allow the use of camera drones, which indicates that drone journalism has large testing fields for aerial newsgathering and storytelling. It also indicates that responsible drone journalism as a newsbeat is indeed needed on all continents.

Most likely there will never be a legally unified global approach to the use of military and civilian drones. This leads us to suggest that a mosaic model might be the most probable scenario for the future; some countries and areas in the world will spearhead and further develop drones for a multitude of operations in society. Local drone hubs and industry clusters are built in many places outside of China, which is currently the leading manufacturer of consumer drones. In some areas and countries, the development or use of drones will not be allowed at all.



## **Satellites next**

So far in this book we have mostly focused on opportunities and dilemmas of drones as a visual newsgathering tool in journalism. The idea was that in order to gain competence in covering the drone field as a news beat it is helpful to explore the options of a new technology from the inside out. In the first chapter, we also proposed that at this point in time, there is a crucial opening for journalists to explore, inform, influence and impact the further direction and governance of drones in society. New features are constantly added to drone technology, features that expand the range and sensing conditions of its operations. We believe it is time for responsible drone journalism to expand the scope; it is time to integrate the exploratory camera drone experiences with critical thinking and constructive solution-foci on behalf of society as a whole.

As devoted news hunters, entrepreneurial drone journalists are strategically placed in the middle of merging interactive communities that posit more communicative power than they might be aware of. As members of global networks, drone journalists tap into the creation of global marketplaces and new connected cultures of learning in which the pace of good ideas escalates exponentially. With increasing time pressure comes increasing quests for action. Thus a crucial question is in what ways might journalism contribute to make individuals, governments and populations more insightful decision makers of an expanding technology such as drones. How can open collaboration communities and the free exchange of ideas best be used for the common good of society? In what ways can journalism programs, as labs for journalism innovation and exploration, merge the dualities of responsible drone journalism? And in what ways might scenario building for a responsible future be incorporated in higher education as well as in virtual learning spaces?

The increasing time tension that follows from digital connectivism leaves less time for reflection. Simultaneously, as pointed out by Castells (2012), the Internet as a social network provides spaces of autonomy beyond the control of governments and corporations that previously monopolized communication power. Exactly at the nexus of transformative transparency and surveillance, shifting legislation and virtual communication spaces lie the new options for ubiquitous learning. We suggest that we are entering a new era of learning in which we will see amazing progress in educative approaches, formally and informally. We believe that the framework of responsible research and innovation (RRI) (Owen et al., 2013) will be a valuable tool in this transition. The website on RRI tools is a good place to start for those who want to further engage students, colleagues, politicians and others in face-to-face debates on the future of drones in society. Playing the infinite game of technology (Kelly, 2009) from a human perspective means not to focus on details, first and foremost, but to be value-driven, to

have a vision not only of what technology wants but what we as humans want.

And while writing these lines, technology is doing for us what humans have always envisioned – and feared. It is time to look higher up into the sky than lower airspace. Far out in the endless horizon, beyond our human gaze, are the satellites. Similar to drones, satellites were invented as spying devices in the 1950s. When the Soviets started the space race with sputniks, the Americans followed. And later, from the 1980s onward, satellites have enabled many other commercial global communication systems. Foreign reporting, for instance, has been enabled by satellite phones with video feed points and links for decades.

With nanotechnology, miniaturization is expected to be the next big trend. Small satellites are now called toasters. They are still quite expensive, but there are services available to individuals and organizations on a global market. The miniaturization of the satellites has opened new markets for innovative companies operating hundreds of “mini-satellites.” Their services include, for example, real-time Earth monitoring, and satellite photo archives. Both might be useful as new data sources for the news media, and many governments offer satellite imagery services. ProPublica was among the first news media to use governmental satellite imagery for their investigative reporting (ProPublica.com, 2014).

With the advancing drone and satellite technologies, the concept of eyes in the skies has taken on a new meaning. We propose that satellite journalism might become the next test of responsible research and innovation in future society.

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