

Chapter 13

The Multi-Layered Information in a Digital Image

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An image, especially a digital image, is a complex entity comprised of a variety of information. You can think of it as a Russian matryoshka doll — behind each piece of information awaits another piece of information, followed by yet another piece of information. The same is true for the various stakeholders whose interests are affected by an image. There is a stakeholder behind a stakeholder behind a stakeholder.

An image may reveal personal or confidential information about a person or object depicted, or a viewer might be offended by an image's content. Other interests might be affected by the creation and distribution of the image. A photographer or painter wants protection against the appropriation, alteration or destruction of his or her images, and is entitled to a share of revenue generated by the image. Other artists and “prosumers” seek to use existing images in their creative or communicative process. These instances highlight only a small fraction of the potential conflicts of interest in the creation or use of an image.

In this article, I would like to demonstrate how those different conflicts of interest and respective stakeholders might be structured in an information layer model. This information layer model was introduced by *Herbert Zech* in his habilitation thesis “Information als Schutzgegenstand”¹ (the verbatim translation would be “Information as an Object of (legal) Protection”), and builds on concepts of *Benkler*² and *Lessig*³ as pointed out by *Zech* himself as well as by those reviewing his work.⁴ The information model does not provide definitive answers on how to mediate the aforementioned conflicts. However, it is a helpful tool for analysing and structuring the multitude of information and thus interests in an image, as well as the different legal instruments upon which solutions may be based.

1 Zech (2012).

2 Benkler (2000) 562.

3 Lessig (2001) 23.

4 Zech (2012) 43; see also Dreier (2013) para.4.

According to *Zech*, information can be divided into three different dimensions: structural information, syntactic information, and semantic information.⁵ In order to address further relevant legal issues of a digital image, I propose adding the context of image creation as a fourth dimension. While the context of image creation is not information stored in a digital image, it is, at least from the perspective of German law, a context that requires consideration for a comprehensive analysis of an image's opposing interests.

1. Semantic Information

The semantic layer of information is characterised by the meaning that a recipient of the information attributes to the data with which she is provided.⁶ For example, a picture's pixel arrangement conveys the semantic information that a certain person, object or landscape is depicted (e.g., the picture from this volume's cover provides the semantic information of a certain view of Lake Como). If the semantic information relates to a person, it may infringe upon personality rights or data protection law. If an image depicts objects, for example paintings, sculptures, buildings, machines, cars or other individually designed objects, then this information might incite conflict with copyright law, the protection of trade secrets, or, in rare cases with patent law, and even property law, in some jurisdictions.⁷

Although semantic information may be subject to the individual rights mentioned, this does not necessarily mean that protected semantic information may not be included in an image. When applying the conflicting rights, it must be taken into account that any legal restriction on the use of semantic information severely affects individuals' freedoms of communication, the freedom of expression and information (Art. 11 Charter of Funda-

5 *Zech* (2012) 35 et seq.

6 *Ibid.* 37 et seq.

7 For example in France where the *Cour de Cassation* decided that "l'exploitation du bien sous la forme de photographies porte atteinte au droit de jouissance du propriétaire" (*Cour de Cassation, Chambre civile 1*, of 10 March 1999, 96-18.699, *Bulletin* 1999 I N° 87 p. 58 – *Café Gondrée*), which the Court later restricted to photographs causing "trouble anormal" (*Cour de Cassation, Assemblée plénière*, of 7 May.2004, 02-10.450, *Bulletin* 1999 I N° 87 p. 58 – *l'Hôtel de Girancourt*). See also *Schack* (2006) 149.

mental Rights of The European Union), and the freedom of the arts and sciences (Art. 13 Charter of Fundamental Rights of The European Union).

The restriction necessary to protect individual rights or public interests must be balanced with and be proportionate to the restriction of fundamental freedoms. Consequently, the use of semantic information should only be restricted when necessary for the protection of other rights, which cannot be achieved by less intrusive means. In this respect, the information level model can be of assistance. Restricting the use of *semantic* information has usually a much stronger impact on the aforementioned freedoms than restrictions on the other information levels, e.g., restricting the use of syntactic information or restricting the access to structural information.



Figs. 1 and 2: Shapard Fairey, *Hope* (left), and Mannie Garcia, *Obama* (right)

This can be illustrated by the following example. The iconic blue and red Barack Obama “Hope” poster, created by *Shepard Fairey*, which became a key symbol during Obama’s 2008 presidential campaign (Fig. 1).⁸ The

8 https://en.wikipedia.org/wiki/Barack_Obama_%22Hope%22_poster#Origin_and_copyright_issues.

poster was based on a photograph taken by *Mannie Garcia* (Fig. 2).⁹ When balancing the interest of the original photo's photographer with that of the poster designer, it would be very far-reaching if the poster designer were prohibited from using the pose featured in the original photo and thus a *semantic piece of information* about Barack Obama.¹⁰ On the other hand, requiring the poster designer to compensate the photographer of the original photo for the use of the original photo's syntactical information might be a fair balance of interests. The photographer has invested time and money to create this *syntactical information* and saves the poster designer the effort of creating an identical or similar image himself or herself (or obtaining permission from another photographer).

Another, separate question is whether Barack Obama would have the right to restrict the use of his portrait (*semantic information*), or whether he must have a share of the revenue from merchandise (sweatshirts, t-shirts, coffee mugs) bearing that image.

II. Syntactic Information

The syntactic layer of information categorises information in coded form, such as a photograph or a computer file.¹¹ Semantic information needs to be fixed in syntactic form (on at least one structural layer, see below III.) in order to be stored, processed and re-used.¹² The person or entity responsible for creating syntactic information, e.g., a painter or a photographer, may hold rights in the coded information, but not necessarily in the semantic information contained in the coded information.

In the example above, *Mannie Garcia* owns the copyright of the original *Barack Obama* photograph that was later transformed into the iconic poster. That copyright entitles him to control the copying, distribution

9 The factual and legal background can be found in the paper of Fisher et al. (2012).

10 It is therefore disputed whether and to what extent the copyright or the ancillary right in a picture extends to the pose of the pictured person(s) or objects, see OLG Köln, 6 U 189/97 of 5 March 1999, Gewerblicher Rechtsschutz und Urheberrecht (GRUR) 2000, 43 – Klammerpose; OLG Hamburg, 3 U 302/94 of 29 June 1995, Zeitschrift für Urheber- und Medienrecht-Rechtsprechungsdienst (ZUM-RD) 1997, 217 – Troades-Inszenierung; Rogers vs. Koons, 960 F.2d 301 (2nd Cir. 1992); Schulze (2018) para. 36; Schack (2017) para. 875.

11 Zech (2012) 38 et seq.

12 Even if information is memorised by a human, it is stored by structural changes in brain synapses.

and making available of the specific photograph, meaning the specific syntactic information he created by taking and storing that photograph. That protection is extended, at least in principle, to the use in modified form as long as the syntactic information is still recognisable.¹³ However, *Garcia* does not necessarily “own” *Barack Obama’s* pose featured in the photo.¹⁴ That means, *Garcia* cannot forbid any other photographer to take very similar or virtually identical pictures of *Barack Obama*, thus creating a new syntactic code of the picture. A different result is only justified if the creation (and not only the depiction) of the pose itself is considered a personal, individual creation, leading to a copyright in the pose. This is not the case in our example, as *Garcia* only depicted a scene from a reality unaltered by *Garcia* when he captured the photograph.

Still, the owner of syntactic information may have a certain influence on the use of semantic information stored therein. The photographer of a unique moment in time, such as humankind’s first steps on the moon, can control the use, distribution and availability of that information as long as there are no other photographs of that particular scene. Although he or she does not have a subjective right in the semantic information itself, the right holder can control the *access* to and the *distribution* of that information.

The same applies to information stored in (copyrighted) photographs that depict works of visual arts that are in the public domain. Although works in the public domain can be used by anyone without permission from the original creator, a different copyright regime protects the photographs syntactic information. Consequently, art works in the public domain are, *de facto*, not in the public domain as long as the syntactic information about the art work is still protected by a copyright or ancillary right (and the owner of the unique physical embodiment of the work restricts access to the structural information, see below III.). The European legislator has addressed the problem in Art. 14 Directive 2019/790 on copyright and related rights in the Digital Single Market. The directive obliges Member States to end copyright or related right protections of any material resulting from an act of reproduction when a work of visual art’s term of protection has expired, unless the material resulting from that act of reproduction is original in the sense that it is the author’s own intellectual creation.

13 For the recognisability test, cf. CJEU, C-476/17 of 29 July 2019, ECLI: EU:C:2019:624 para. 31 – Pelham.

14 See above footnote 10.

Nonetheless, this freedom of information for existing reproductions, and according syntactic information of works of visual arts, comes at a price. It is unlikely that costly high-quality reproductions of works of visual arts will continue to be made in the future, unless the creation of the public goods is subsidised by third parties.

III. Structural Information

Structural information is information stored on a physical medium, such as a hard drive, flash drive, a cloud server, or, in a non-digital context, a photographic print, painting, or drawing.¹⁵ Even in a digital context, structural information is still of great importance. Although information as such is an immaterial good and may be used by many different users simultaneously, it must be materialised for permanent use (e.g., stored on computer discs or paper). Information cannot be stored in a completely matterless way.

The owner of the structural information controls access to the syntactic and semantic information stored on his or her property. However, legal control does not extend to the syntactic or semantic information as such, as long as the property owner does not fulfil the independent criteria for the creation of rights in syntactic or semantic information. If a photographer sells a print of a self-portrait, the purchaser acquires ownership of the print but neither copyrights in the photograph nor personality rights in the self-portrait.¹⁶ On the other hand, by transferring the ownership of the print, the photographer loses control over the print and the new owner might block access to it. If the photographer loses his or her remaining copy of the syntactic information, she needs the consent of the print's owner to restore her own syntactic information via a new copy of the photograph. Consequently, German copyright law provides the author with a right to access the original or a copy of a work if necessary to make further copies of the work.¹⁷

15 Zech (2012) 41 et seq.

16 Cf. sec. 44 para. 1 UrhG: "(1) If the author sells the original work, in case of doubt he does not grant the right of use to the acquirer."

17 Cf. sec. 25 UrhG: "(1) The author may require the owner of the original or a copy of his work to make the original or the copy accessible to him, to the extent that this is necessary for the production of copies or adaptations of the work and does not conflict with legitimate interests of the owner. (2) The owner shall not be obliged to surrender the original or the copy to the author".

If a digital image is stored on a hard drive and then altered or destroyed, it is, again, necessary to distinguish between the different layers of information. The owner of the hard drive is entitled to damages in any case, as this alteration or destruction mainly concerns physical property and consequently the structural layer. As the syntactic information is usually stored in many different places, the interests of the creator as owner of the syntactic information are unharmed. This may only be the case if the last remaining structural information storing the syntactical information is destroyed. This is unusual in a digital context and therefore more of a problem for architectural works or site-specific art. The German Federal Supreme Court has decided in a recent case concerning the “HHole for Mannheim” that the author’s moral rights might be infringed if site-specific art in a museum is permanently destroyed.¹⁸

IV. Context of Creation

At least in Germany, the context in which a photograph is taken may impose restrictions on the photographer. A property owner may restrict the act of taking a photograph based on his or her ownership of a building or land. For example, a photo taken in the garden of Castle Sanssoucis in Potsdam could infringe upon the property right of the *Stiftung Preußischer Kulturbesitz* (Prussian Cultural Heritage Foundation), the owner of the castle and surrounding gardens. While German jurisprudence recognises that the owner of real property does not have the right to prohibit photography of his or her property *per se*,¹⁹ the owner does have the right to control access to the property and to restrict the taking of photographs on his or her property.²⁰ It is therefore a question of legal remedies whether the infringement of the property right by unlawful photography extends to

18 BGH, I ZR 98/17 of 21 February 2019, *Zeitschrift für Urheber- und Medienrecht* (ZUM) 2019, 508 – HHole (for Mannheim). See also BGH, I ZR 99/17 of 21 February 2019, ZUM 2019, 521 – PHaradise; BGH, I ZR 15/18 of 21 February, ZUM 2019, 528 – Minigolfanlage, and the commentary by Schulze (2019).

19 BGH, I b ZR 111/63 of 13 October 1965, *Neue Juristische Wochenschrift* (NJW) 1966, 542 (543 et seq.) – Apfel-Madonna; BGH, V ZR 45/10 of 17 December 2010, NJW 2011, 749 para. 15 – Preußische Gärten und Parkanlagen I; BGH, V ZR 14/12 of 1 March 2013, NJW 2013, 1809 para. 15 – Preußische Gärten und Parkanlagen II. – For the different approach of the French Cour de Cassation, see above footnote 7.

20 BGH, V ZR 324/13 of 19 December 2014, *Neue Juristische Wochenschrift* (NJW) 2015, 2037 para. 10 – Preußische Kunstwerke.

the product of this infringement – the photograph itself.²¹ The German Federal Supreme Court has affirmed the latter in highly controversial decisions.²² The same reasoning may apply in certain areas where photography is prohibited by law, such as in the case of photographs taken of military installations.

V. Conclusion

The information layer model is a tool to structure and analyse the varying interests that may exist within a digital image. While the model does not provide definitive answers, it does allow the identification of the appropriate layer of information for mediating the different interests. Accordingly, the regulation can be limited to specific aspects of information and, consequently, restricting the conflicting interests as little as possible.

References:

- Benkler, Yochai (2000): 'From Consumers to Users: Shifting the Deeper Structures of Regulation Toward Sustainable Commons and User Access', 52 *Federal Communications Law Journal* (2000) 561–579 (online at <https://www.repository.law.indiana.edu/cgi/viewcontent.cgi?article=1242&context=fclj>)
- Dreier, Thomas (2013): 'Book Review of Zech, Information als Schutzgegenstand', 4 *Journal of Intellectual Property, Information Technology and E-Commerce Law* (2013) 66–67
- Fisher, William W. III/Cost, Frank/Fairey, Shepard/Feder, Meir/Fountain, Edwin/Stewart, Geoffrey/Sturken, Marita (2012): 'Reflections on the Hope Poster Case', 25 *Harvard Journal of Law and Technology* (2012) 244–338 (online available at <http://jolt.law.harvard.edu/articles/pdf/v25/25HarvJLTech243.pdf>)
- Lessig, Lawrence (2001): *The Future of Ideas – The Fate of the Commons in a Connected World* (New York: Vintage Books, 2001)
- Raue, Benjamin (2012): 'Einschränkung der Filmfreiheit durch Eigentum?', *Kunst und Recht* (2012) 166–169

21 See BGH, V ZR 14/12 of 1 March 2013, *Neue Juristische Wochenschrift* (NJW) 2013, 1809 para. 12 – Preußische Gärten und Parkanlagen II; Raue (2017) 573 et seq.; dissenting Schack (2011) 376.

22 BGH, V ZR 14/12 of 1 March 2013, *Neue Juristische Wochenschrift* (NJW) 2013, 1809 para. 12 – Preußische Gärten und Parkanlagen II.

- Raue, Benjamin (2017): *Die dreifache Schadensberechnung – Eine Untersuchung zum deutschen und europäischen Immaterialgüter-, Lauterkeits- und Bürgerlichen Recht* (Tübingen: Mohr Siebeck 2017)
- Raue, Benjamin (2019): ‘Die Rechte des Sacheigentümers bei der Erhebung von Daten’, *Neue Juristische Wochenschrift* (2019) 2425–2430
- Schack, Haimo (2006): ‘Comment on the decision of the Cour de cassation, Assemblée plénière, of 7 May 2004’, *Zeitschrift für Europäisches Privatrecht* (2006) 150–157
- Schack, Haimo (2010): ‘Comment on the decision of the German Federal Supreme Court, V ZR 45/10 of 7 December 2010’, *Juristenzeitung* (2011) 375–376
- Schack, Haimo (2017): *Kunst und Recht* (Tübingen: Mohr Siebeck 3rd edition 2017)
- Schulze, Gernot (2018): ‘Commentary on § 24 of the German Copright Act’, in: Dreier, Thomas/Schulze, Gernot: *Urheberrechtsgesetz – Kommentar* (München: C.H. Beck 6th edition 2018)
- Schulze, Gernot (2019): ‘Comment on the decision of the German Federal Supreme Court, I ZR 98/17, of 21 February 2019’, *Gewerblicher Rechtsschutz und Urheberrecht* (2019) 617–619
- Zech, Herbert (2012): *Information als Schutzgegenstand* (Tübingen: Mohr Siebeck 2012; online available: DOI 10.1628/978–3–16–152162–1)

Photo credits

Fig. 1: Shepard Fairey; https://en.wikipedia.org/wiki/File:Barack_Obama_Hope_poster.jpg

Fig. 2: Mannie Garcia/Associated Press

