

Dimensions and effects of media saturation in open and closed spaces. Case studies of Sky Tower shopping mall and P.I.W.O. Light Show project

KEY WORDS

media saturation, mediatisation, space, new media

ABSTRACT

The article is devoted to media saturation. Firstly, it presents a discussion on the relationship between saturation and mediatisation. The theoretical assumptions on media saturation are indicated here with a reference to two general types: technological saturation and mediated processes saturation. In addition to this, an analytical tool of communicative figurations is being described. Secondly, the analysis of saturation of two case studies – closed space Sky Tower shopping mall and open space P.I.W.O. Light Show project – helps to formulate methodological conclusions as well as recommendations for further transdisciplinary research on media saturation.

Media saturation is a common phenomenon. The concentration of media in the space around us is very high. The scale of use of mobile and stationary, traditional and new media is very large. Mediatisation is expanding to new areas of life. Currently, it is based on mobility¹, applicatisation², algorithmisation³, and personalisation⁴. As Nick Couldry points out, “[f]irst, if, as we so often claim, our life worlds are media saturated, then we need to look at processes of media saturation through a wider angled lens. A media-saturated world is a world where actions oriented to media are precisely not limited to production, direct consumption, and further circulation. Media norms are internalised and embodied; media resources become part of the infrastructure of many types of activity (...)”⁵. Therefore, the problem of media saturation has to be viewed comprehensively. The elements of the current media reality

¹ See, e.g., K. Kopecka-Piech, *Mediatyzacja w ruchu, czyli kształtowanie się kultury medialnej mobilności* [Mediatisation in motion, or the shaping of media mobility culture], “Kultura i Historia” [Culture and history] 2013, No. 24.

² Similarly to mediatisation, the English term applicatisation can be rendered in Polish as ‘aplikatyzacja’. For more on the phenomenon, see: K. Kopecka-Piech, *Mediatyzacja przez aplikatyzację. Mobilna hybrydyzacja, wielozadaniowość i współdzielenie* [Mediatization through applicatization: Mobile hybridisation, multitasking, and sharing], “Zeszyty Prasoznawcze” [Media Research Issues] 2015, No. 1.

³ See, e.g., A. Halavais, *Wyszukiwarki internetowe a społeczeństwo* [Search engine society], Warszawa 2012.

⁴ See, e.g., K. Kopecka-Piech, *Aplikacje mobilne: innowacyjność, sytuacyjność i personalizacja komunikacji* [Mobile applications: innovation, situationality, and personalisation of information], „Nowe Media. Czasopismo Naukowe” [New Media: Academic journal] 2013, No. 4.

⁵ N. Couldry, *My media studies: Thoughts from Nick Couldry*, “Television & New Media” 2009, No. 1, p. 40–41. It is worth noting that Nick Couldry is currently one of the leading researchers of mediatisation and one of the few to notice the problem of media saturation (although he has only indicated it without developing).

cannot be studied separately, since media production and consumption intersect⁶, and so do promotion and circulation. Actions undertaken in the media domain are characterised by the lack of clearly defined borders between their corresponding processes and between their elements. In short, we are looking at convergence. The rules according to which media operate are accepted and applied to various areas of activity because media are commonly used there and become integral to many aspects of everyday life, filling them in technological and socio-cultural (and normative) sense.

Media transcend parts of the environment. They blend into it in both literal (direct, matter-level) and symbolic (indirect, content and message level) sense. There is technological saturation, or technological aspect of saturation, while pointing out which technologies fill and transform the space, and how; there is also saturation with mediated processes, that is, the saturation with media communication of various changing forms of human activity. This leads to the question how, due to the saturation, the human life changes.

The first part of this paper is the discussion on the difference between saturation and mediatisation, showing the former as part of the latter. The subsequent part comprises two case studies. Both analyses involve public spaces saturated with new media technologies: the closed spaces of large shopping centres and the open spaces being mediatised through events taking advantage of new technologies⁷. The Sky Tower centre in Wrocław and the P.I.W.O. Project were chosen. Observations, individual interviews, and discourse analysis were used in the research. The interpretation employed Andreas Hepp's communicative figurations concept as a tool for the detailed analysis of saturation. In the second part the significance of functionality of both types of space for media saturation was presented.

Media saturation and mediatisation

Whereas the theory of mediatisation emerges as a well-established, under dynamic development⁸, yet not entirely coherent one, the concept of media saturation is something new, open to various interpretations, seldom taken up, and thus still vague.

⁶ It is reflected by the analyses of media prosumption or productive use, among other things.

⁷ The distinction between open and closed space is based on the presence of possible barriers. An open space "has no visible barriers"; see: T. Olendarek, *Funkcja jako cecha przestrzeni* [Function as spatial feature], "Studia i Materiały Centrum Edukacji Przyrodniczo-Leśnej" 2008, y. 10, iss. 3 (19).

⁸ In Poland, thorough analyses in mediatisation were carried out by, among others: M. Mołęda-Zdziech, *Czas celebrytów: Mediatyzacja życia publicznego* [Time of celebrities: Mediatisation of public life], Warszawa 2013; K. Gierelo-Klimaszewska, *Rola telewizji w kształtowaniu wizerunku politycznego: Studium mediatyzacji polityki na przykładzie wyborów prezydenckich w Polsce* [Role of television in political image formation: A study in mediatisation of politics based on Polish presidential election], Toruń 2008; Ł. Wojtkowski, *Mediatyzacja polityki: Amerykańska kampania prezydencka 2008* [Mediatisation of Politics: 2008 US presidential campaign], Toruń 2012.

Clearly, there is a problem in distinguishing between media saturation alone and mediatisation. From the perspective of certain processes taking place through media and their effects, saturation either is a component of mediatisation or facilitates it. While mediatisation is the transformation of reality under the influence of the media or – as Hepp has it – medial moulding forces. Mediatisation has a quantitative and a qualitative dimensions.

To take a quantitative measurement of mediatisation means to determine how the presence of media and communication in some area of life has increased or decreased. As Friedrich Krotz notes, it should be established how the number of used “media and communication tool” changes. This phenomenon can be analysed from three perspectives⁹. The first concerns time and enables, for example, answering the question what quantitative changes in media use took place in the given period. The second involves space. For instance, it explains which changes can be observed in the given space or how the spread scale of the medium has changed. The third perspective is social. It is possible to study the presence of the media in given social, e.g. demographic, groups.

The qualitative aspect covers the relationship between media change and cultural change. They are being shaped both by the technological material and the structuring of communication processes: namely, activities and practices¹⁰. In this context, the concept of saturation emerges as a tool for explaining in detail the specific relationships between the media, space, and the widely understood socio-cultural sphere. The individual areas of human activity are subjected to the media logics also due to the saturation of the media space with technology. This very saturation is both a tool of the transformation and its own phenomenon. There are medical¹¹, psychological¹², environmental¹³, and aesthetic¹⁴ effects of excess media saturation of open or closed spaces; there are also consequences of the scarcity of media in

⁹ F. Krotz, *Mediatisierung: Fallstudien Zum Wandel Von Kommunikation*, Wiesbaden 2007 [vide:] A. Hepp, *Researching ‘mediatised worlds’: Non-mediacentric media and communication research as a challenge*, in: *Media and communication studies interventions and intersections*, ed. N. Carpentier, Tartu 2010, p. 39.

¹⁰ A. Hepp, *Researching ‘mediatised worlds’...*, op. cit., p. 40.

¹¹ Such as the medical effects of Wi-Fi network radiation, see, e.g., H. Atasoy et al., *Immunohistopathologic demonstration of deleterious effects on growing rat testes of radiofrequency waves emitted from conventional Wi-Fi devices*, “*Journal of Pediatric Urology*” 2013, No. 9 (2).

¹² E.g., the psychological effect of media saturation of home space, see: E.A. Vandewater et al., *Digital childhood: Electronic media and technology use among infants, toddlers, and preschoolers*, “*Pediatrics*” 2007, No. 119 (5).

¹³ For instance, the destruction of the natural landscape due to the deployment of IT infrastructure; see, e.g.: M. Macher, M. Kałuski, *Problemy inwestycji telekomunikacyjnych a ochrona środowiska w dobie społeczeństwa informacyjnego* [Problems of IT investments and protection of the environment in the age of information society], “*Przegląd Telekomunikacyjny + Wiadomości Telekomunikacyjne*” 2008, No. 81.

¹⁴ E.g., the supersaturation of urban spaces with (mostly advertising) images at the expense of the aesthetics of (also historic) architecture; see, e.g.: T. Nawrocki, *Miasta nasze a w nich... Kilka refleksji o wpływie reklamy zewnętrznej na miejską ikonosferę* [Our cities and there... some reflection on the effect of external advertising on the urban iconosphere], “*Acta Universitatis Lodziensis. Folia Sociologica*” 2011, No. 36.

such spaces when it becomes necessary to perform many task, nowadays dependent on the media¹⁵.

Aspects of media saturation

Theoretical assumptions

Saturation can be considered as a process and a state of saturation of a given space with media, and subjected to qualitative or quantitative analysis. The research may cover the technological, economic, or socio-cultural dimensions, which clearly overlap. In the adopted perspective, the concept of the discussion are the theory of medium and media environment, or media ecology, as well as Hepp's mediatisation concept, going back to social constructivism and sociology of knowledge¹⁶. Hepp's approach is one of the better developed views of mediatisation. In the recent years, basing on a general systematisation of the phenomenon, he developed the concept of medial moulding forces and then suggested a universal research tool in the form of communication figurations. The theory he has developed is a coherent whole and has proven flexible enough to be used in the research of phenomena both complementary to and necessary for mediatisation. In the current mainstream of mediatisation research there is no similarly adequate hypothesis, sufficiently developed to enable carrying out comprehensive studies, which by their very nature are complex and must be comprehensive. In the presented analyses, this concept was adapted to suit the needs of studying saturation.

In the first place, it has been assumed that the media generate an environment¹⁷ and create converging media spaces¹⁸, saturated with media technology to a varying degree and in various ways. It has also been assumed that the media transform the human surroundings through an interaction between the media and cultural and social elements. Thus, the aim of the study is to “[investigate] the interrelation between the change of media and communication on the one hand and culture and society on the other, reflecting the transforming role of media communication within this interrelation”¹⁹.

¹⁵ The simplest example here is the lack of sufficiently fast internet access at the office workplace.

¹⁶ A. Hepp, *Communicative figurations. Research cultures of mediatisation*, in: *Media practice and everyday agency in Europe*, eds. L. Kramp et al., Bremen 2014, p. 88. For more on various takes of mediatisation, see: K. Kopecka-Piech, *Sport – od medialnego zapośredniczenia do mediatyzacji* [Sport: From mediation by the media to mediatisation], “Kultura i Edukacja” [Culture and education] 2012, No. 4.

¹⁷ D. Morley, *Media, modernity and technology. The geography of the new*, London, New York 2007; J. Meyrowitz, *Medium theory: An alternative to the dominant paradigm of media effects*, in: *The Sage handbook of media processes and effects*, eds. R.L. Nabi, M.B. Oliver, Thousand Oaks 2009.

¹⁸ K. Kopecka-Piech, *Converging media spaces: Introducing an emergent field of studies*, “Studia Humanistyczne” AGH [AGH contributions to humanities] 2012, No. 3, p. 77 f.

¹⁹ A. Hepp, *Communicative figurations...*, op. cit., p. 84.

The analysed area is the everyday life of media users, which becomes increasingly mediated, centralised, and oriented towards media (everyday media-centrism²⁰) – including mobile media (mobile phone-centrism²¹). Everyday life is full of mediated processes, both common and usual (like interpersonal communication or market transactions) and more occasional ones (such as participation in various events). What they have in common, regardless how spectacular, unique, or occasional they are, is the networking and looping of communication processes mediated by the media. Currently, a predominant share of processes cannot take place unless through the media which, should they be deprived of this role, change their nature entirely. Media saturation increases because these processes also become more attractive once they are focused on the media filling the space.

Analysis tool: communication figurations

The saturation analysis tool is Hepp's concept of communication figurations: "patterns of processes of communicative inter-weaving that exists across various media and have a 'thematic framing' that orients communicative action and sense-making"²². They are "structured ways by which the communicative construction of culture and society takes place"²³. Communicative figurations are not static phenomena but rather processes, realised in the practice of communication²⁴. They are characterised by four features and four construction capacities. The features include communicative forms, or types of communication activities and practices based on conventions; media ensembles, i.e., all media through which a communicative figuration takes place; constellation of actors; and thematic framing, that is, the sense-making frame which defines the figuration as a social and cultural unit²⁵. Whereas the construction capacities comprise belonging, rules, power, and segmentation. They are the dimensions enabling figurations to be conceptualised. In the case of belonging, the issues of socialisation, inclusion, and even commercial ties between customers and brands are determined. Figuration analysis also serves to explain how (political, legal, social, ethical, and aesthetic) rules are moulded. In turn, the issues of segmentation involve media and communication inequalities, e.g., in the access to information, ways of using media, digital

²⁰ A. Hepp, *Researching 'mediatised worlds'...*, op. cit., p. 43.

²¹ Ibidem.

²² Idem, *Communicative figurations...*, op. cit., p. 88.

²³ A. Hepp, U. Hasebrink, *Human interaction and communicative figurations. The transformation of mediatizes cultures and societies*, "Communicative Figurations" working paper, Bremen 2013, No. 2, p. 16, http://www.kommunikative-figurationen.de/fileadmin/redak_kofi/Arbeitspapiere/CoFi_EWP_No-2_Hepp_Hasebrink.pdf [accessed: 19 Mar 2015].

²⁴ A. Hepp, *Communicative figurations...*, op. cit., p. 88.

²⁵ Ibidem, p. 89-90.

divide, etc. Finally, the perspective of power directs the analysis to such questions as empowerment and identity building, including individualisation²⁶.

Saturation with technology and with mediated processes

There are two main types of saturation and corresponding methods of quantitative and qualitative analysis and description. Technological saturation is the saturation of space with media in the material sense, physically filling the space with media components, infrastructure, and materials which enable all aspects of mediated communication: one-to-one, one-to-many, many-to-many, etc. Thus, all media technologies saturate space, from stationary media, like large format display media, to handy mobile media, traditional media (books, the press, radio, television, posters), to new media technologies (the Internet, augmented reality, Bluetooth, RFID, etc.). Examples of spaces with relatively high media saturation include, e.g., such open spaces as the Times Square in New York and closed spaces of malls, gaming lounges, news agents', even libraries. The differences among them concerns types of media, mediated processes, and thus, the nature of saturation. Whereas the examples of spaces with negligible saturation are the few, albeit still present, open spaces without cellular networks, radio (though, almost everywhere, with access to a satellite network), and closed spaces of buildings and rooms, where the flow of various waves is being blocked (like in opera houses during performances, etc.). Technological saturation does not only involve filling the space with autonomous carriers and signals but also saturating objects with media²⁷, and mediating numerous activities with these objects.

Technological matter forms the basis for non-material, virtual processes filling this space with data. They transform the material, virtual, and augmented spaces²⁸ into a symbolic space where all mediated processes take place, affecting all aspects of human life: personal and professional matters, ordinary everyday life and unusual events. Technological variability leads to the transformation of these processes and the forms of human activity. The media are permanently evolving, are a ceaseless innovation, driving the transformations of these and new mediated processes. Mediatisation of more and more spheres and areas is the consequence of these phenomena and their nature.

²⁶ A. Hepp, U. Hasebrink, *Human interaction...*, op. cit., p. 14–16.

²⁷ K. Kopecka-Piech, *Saturacja medialna: Skutki wszechobecnych mediów* [Media saturation: Effects of ubiquitous media], "Proceedings of the International Scientific Conference on MMK 2014", Hradec Králové 2014, vol. V, p. 1986 f.

²⁸ Namely, a hybrid open space based, for instance on Augmented Reality (AR) technology; more in: K. Kopecka-Piech, *Hybrydyzacja rzeczywistości w mediach mobilnych* [Hybridisation of reality in mobile media], in: *Medialny obraz rzeczywistości* [Media image of reality], ed. M. Zdrowicka-Wawrzyniak, Faculty of Pedagogy and Fine Arts of Adam Mickiewicz University in Poznań, Kalisz 2015 [in print].

For instance, intense saturation with mediated processes can be found in modern office buildings, research institutions, as well as shopping malls, with a wide range of activities mediated by the media. This phenomenon is also present in open spaces during various kinds of events, in which users of hand-held devices, such as smart phones, tablets, etc., are also being involved.

While mediation of processes is based on the exchange of data between media devices, on the social level it means saturation with information and its accompanying dissemination method. This is why discursive saturation can be discussed, as well as the saturation of the social space with certain content and ways of its presentation. Discursive saturation corresponds to technological saturation (on which it is based) and to saturation with mediated processes, since it reinforces and sometimes conditions them. Saturation with information on a given subject, delivering necessary knowledge, or promotion may be useful or even necessary for a certain process to take place. For instance, the use of mobile telephony in banking and introduction of a new practice of accessing bank accounts with smart phones has been made possible because this solution was made available to users, and they were shown an offer they could use. Again, it is worth adducing Couldry, who believes media to be “part of the infrastructure of many types of activity”. It means that media infrastructure fills the infrastructure of activity, and the whole is enveloped in a discourse. Both media and mediated structures are constructed as networks. Relations between components of a discourse are a similar case: they have the network structure, mainly due to mediation via the Internet. This way, space (in all its material and non-material aspects) is saturated by media and mediated processes²⁹. It sets up an environment for mediatisation.

Saturation of closed and open spaces

Closed space – the case of Sky Tower

The shopping mall was selected as a study case due to the innovative media solutions used to furnish it. Observation and analysis of media content were used in the research. The observation was carried out on the opening day of the mall, i.e., 26 May 2012, measuring, among other things, the use times of the analysed media. The analysis included official information, including information from the mall website, (text and video) press reports, and

²⁹ Mediated processes, or mediated by the media, should be understood as all processes in which media are intermediaries, regardless whether the media condition or only supplement these processes; and regardless whether it is just the infrastructure being made available, or rather the case of complex mediatisation and subjection to the media logics; on media logics, see: D.L. Altheide, R.P. Snow, *Media logic*, Beverly Hills, CA, 1979; on the difference between mediation and mediatisation, see: K. Kopecka-Piech, *Sport – od medialnego zapośredniczenia...*, op. cit.

amateur materials shared on-line. Materials released from two weeks before to two weeks after the opening date were analysed. The aim of the study was to answer the question about the effects of media saturation in a closed space of a shopping mall.

The opening of the Sky Tower shopping mall in Wrocław was accompanied by a promotion accentuating modernity, innovation, and a peculiar gigantism. Sky Tower is the tallest building in Poland (212 m)³⁰. It also has the largest surface of interactive screens, described as a kinetic wall. This wall is 2 m high, 15 m long, and comprises 60 screen controlled by 12 computers³¹. It has built-in technologies recognising users and enabling interaction with them. It also allows installation of new applications and lets them converge with mobile devices. You can communicate with the wall using gestures. Launching an application requires standing in a specific place in the corridor, marked with a special sign on the floor, while the use is based on sensing body movements, which enable calling specific commands. The authors of this solution have pronounced it a tool to interest, engage and entertain customers³².

As indicated above, the observation of kinetic wall users at Sky Tower was carried out on the opening day of the mall. At that time, five applications were made available to users: an interactive gallery with pictures of the mall, the spinning Sky Tower, trivia about the mall, its plan, and a game called *The plane* (Pol. *Samolot*). Four of the five applications were purely informational and promotional. Those responsible for the development of the kinetic wall announced, among other things, that during the European Football Championship the customers would be able to access a football application, allowing them to compete with virtual goalies and share the results with others via Facebook in real time³³. They also declared that new features would involve users in new ways.

In order to take a closer look at the media saturation and its effect, the analysis made use of the concept of communication figurations described above. Such categories of analysis as media ensembles, communication forms, constellations of actors and thematic framing

³⁰ *Nowy symbol miasta* [New symbol of the city], <http://www.skytower.pl/index.php/nowy-symbol> [accessed: 19 Mar 2015].

³¹ *W Sky Tower pobawimy się ogromnym ekranem multimedialnym* [We can play with a giant multi-media screen at Sky Tower], "MMWrocław.pl", 18.05.2012, <http://www.mmwroclaw.pl/artykul/w-sky-tower-pobawimy-sie-ogromnym-ekranem-ultimedialnym,2807566,artgal,t,id,tm.html> [accessed: 19 Mar 2015].

³² Statement by Maciej Mielcarek from Aduma (the company which manufactured the screens), *Interaktywny ekran gigant w galerii handlowej Sky Tower* [Interactive giant at the Sky Tower mall], <https://www.youtube.com/watch?v=odjOpzKoiNs> [accessed: 18 May 2015].

³³ This indeed happened during the Championship, when football games were also displayed on the giant screens.

were appropriately related to the quantitative and qualitative dimensions of the studied phenomenon (the degree and effects of saturation, respectively).

Technological saturation – degree of saturation

One could try to evaluate the degree of saturation by indicating the amount of media surrounding a potential user. It is very difficult due to severe limitations on obtaining the data from users or in the access to devices, which would be able to measure the magnetic or radio field. Moreover, such data would not be of too much value for determining the socio-cultural aspect of the phenomenon. For this reason, the number of media ensembles were treated relationally. The observed situation was referred to another, similar one.

Compared to other shopping malls situated in Wrocław³⁴, Sky Tower is indeed strongly saturated with display media. Still, it must be stressed that they are concentrated in a strictly delineated space in one of the mall's alleys and does not involve all its area. Apart from the screens, the media ensemble also consists of smart phones used by some applications. Through the means of convergence, they generate a combined data and communication space, in which the others present in the building also participate, even if only by watching other people using the screens. While the format of the implemented display media is unusually large³⁵, its saturation potential is reinforced mainly by its qualitative feature of interactivity. Still, one cannot say that the forms of communication, and thus the results of certain activities generated by the screens, greatly increase the degree of saturation. Neither the information about the mall nor the fairly limited in form and content game *The plain* offered solutions which could increase the use of mobile media by users (not just directly, with applications, but mainly indirectly: to record, take pictures, or share multi-media content with others, e.g., via networking services. The topics of communication were also very narrow: information on Sky tower or an entertaining game. The average time of contact between a user and an application was about 50 seconds in the case of informational and promotional application, and 1 minute for the game, where the turn took exactly 60 seconds. The results of the observation indicate that the game attracted definitely the largest interest of both the younger and the older participants. The majority of applications was concerned with Sky Tower, making the communication with the screen rather monotone and mediatizing the experience of the mall in a new, interactive, and large-format way. This way,

³⁴ The largest ones include: Galeria Dominikańska, Pasaż Grunwaldzki, Centrum Handlowe Renoma, Arkady Wrocławskie, Magnolia Park.

³⁵ The media messages are inconclusive whether the kinetic wall at Sky Tower is the largest in the world or in Europe.

the discourse positioning Sky Tower as a unique and modern venue, open to the experiences of customers, was also strengthened.

On the observation day, the constellation of actors was varied. There were both clients and animators, introducing the former to the interaction with the screen. The events were preceded by information in the media. The communication was addressed to journalists and, indirectly, to the audience. Obviously, the main actor of the event was Sky Tower as a new venue on the map of commerce and services in Wrocław, and a unique place in the country. Consequently, the range of constellations of direct and indirect actors was very wide, and the uniqueness of the media used in the building enabled a relatively high technological saturation on site as well as high saturation with information, even surpassing the local area.

Saturation with mediated processes and its effects

From the cultural and social perspective, the qualitative aspect of the saturation with mediated processes generated by the kinetic wall at Sky Tower is much more significant. Three main mediated processes can be distinguished in this case: informing (including conveying promotional information); taking advantage of the offer supplied by the mall (shopping, services); and entertainment. It should be stressed yet again that the reach of the analysed saturation was limited to a single alley in the mall. Whereas discursively, the saturation involved many recipients of information and participants in the event.

What was the mechanism of saturation with media in this particular case? The communicative figuration encouraged activities involving interacting with the screen. In the case of the screen reacting to the movement of passers-by, the primary goal was to generate interest (e.g., the exposition was altered on purpose according to the pace at which the passers-by moved). Involving them in an interaction took only the second place. This way, a new pattern of activity is moulded. Something which has initially seemed surprising and strange becomes more obvious during the next visit to the mall.

It was different in the case of the kinetic screen, using which required taking a specific location in space and even a certain pose (e.g., with one's arms spread like the wings of an airplane). With this screen, every time a new application or game was installed, the corresponding rules also changed, forcing users to adapt to a new convention.

The fact remains that the space in the alley with the screen gained a unique character framing the activities of participants. The couches placed in front of the screens encouraged resting and watching other users. It was also apparent from the observation that using the applications on the street is a kind of collective game, watched by onlookers. On the opening

day, an effort was made to employ animators as trainers, who taught the users and held competitions. Thus, the thematic frame of the first edition of the kinetic screen was instruction enriched with competition.

Some users interested in the innovative screens filmed them and took pictures. However, due to the lack of a direct link to any network solution, the technological screens formed a media ensemble on their own. The convergence was severely limited. On the other hand, the broadly understood discourse was supplemented with media reports and amateur coverages, such as films posted to YouTube. Limiting the topics of applications actually reinforced the communication directed at Sky Tower, which was the centre of attention on that day.

Eventually, the saturation led to the transformation of space and relations between it and the participants. The screens blended into the wall of the building while remaining one of the promotional axes of the opening. The three mediated processes mentioned above (taking advantage of the offer in the mall, informing on it, and entertaining) intertwined with the activity of using the screens. They simultaneously reinforced the paradigm of spending free time at the mall, like dining together in front of the giant screen with one's family or friends. It should also be underlined here that these processes segmented the audience into those open to new experiences (young people in particular), those showing reserve, distancing themselves, and those who merely observed.

Open space – the case of P.I.W.O.

The Mighty Indexed Window Display (Pol. *Potężny Indeksowany Wyświetlacz Oknowy – P.I.W.O.*) was an initiative of the students of the Wrocław University of Technology, who during the Juwenalia student festival in 2011 organised the first light show on one of the dormitories using the light of ceiling lamps. The study on the P.I.W.O. Project involved observations³⁶, individual interviews with the authors of the project, and the analysis of media content (official information, including press reports and amateur materials shared on the website). The analysed materials came from various period in the realisation of the project, from its launch until the Juwenalia of 2014. The aim of the study was to answer the question about the effects of media saturation in an open space.

At present, P.I.W.O. is a larger scale project. Light and sound shows are held in many towns and cities in Poland, on well-known buildings, in cooperation with Radio Zet. A

³⁶ The observations involved the show on Sky Tower on 28 October 2012.

remotely controlled system enables animations to be shown using the windows of a building as components, or pixels, of a greater whole. The shows are frequently accompanied with music. As noted by the students associated in the study circle coordinating P.I.W.O., the project serves three functions: provides great entertainment (especially during Juwenalia), allows them to gain valuable practical experience (in programming, electronics, logistics, fund raising, etc.), and also helps promoting technological studies and the University itself.

The project involves its recipients by using an animation editor³⁷. Using a free application, everyone can design his or her own animation, e.g., greetings to someone, and send it to the organisers of a given show. Some animations displayed on the buildings do come from the users³⁸. The best ones are rewarded.

Technological saturation and its degree

Trying to determine the degree of saturation for the P.I.W.O. Project, one encounter problems as well. For, while it is potentially possible to gain information about the quantity of equipment used in the show (for instance, about 150 light modules controlled wireless using a system of transmitters and special software), it is virtually impossible to determine how many people film the shows live, share them on the web, etc. Another difficulty lies in the relational approach to the study of quantitative aspects of saturation. This project is unique. And, though its authors point out that similar initiatives can be found elsewhere in the world, it is impossible to compare it to other events in Poland. However, it is worth to notice its similarity to the kinetic wall in Sky Tower. Both projects are oriented to large-format activities. Both engage recipients, though in different ways. Also, both mediatise entertainment.

The used technology greatly limits the communication form. Production-wise it is quite modest: it resembles older computer games based on elements constructed from a small number of large pixels. From the recipients' viewpoint, the number of possible forms is also quite modest. It is usually limited to watching the displayed animations from some distance away or filming them, e.g., with a smart phone.

What is unlimited is the choice of topics. Being open to all proposals sent by recipients means that every topic can be the subject of a show. It is a great encouragement for creativity and sharing with others.

³⁷ The full name of the current version of the application is „PIWO Animation Editor 2015 – PKiN”; the official website of P.I.W.O., <http://www.piwo.pwr.wroc.pl/konkurs> [accessed: 19 Oct 2015].

³⁸ The information on the level of participation of amateur animations in the whole show are contradictory; they tell about 17–18% of all animation (an interview with a member of the P.I.W.O. Project), and even 90%: “O Projekcie P.I.W.O Light Show. Plus P.I.W.O tour 2012!” [About the P.I.W.O. Light Show Project. Plus P.I.W.O. Tour 2012!], official website of P.I.W.O., <http://www.piwo.pwr.wroc.pl/videotour2012> [accessed: 19 Mar 2015].

Technology-wise, the media ensemble consists of the equipment used in the whole show (modules, LED light bulbs) as well as the software used by the amateur designers, coverages, pictures, and films of the show. Professional media (such as Radio Zet) are also included in the endeavour.

The constellation of involved actors is also varied – there are many people and entities participating in the project: the students who prepare shows, professional and amateur media, sponsors, amateur co-creators, the audience present at the show, and the so-called remote recipients (e.g., during the transmission by the university TV channel Telewizja Styk or post factum on YouTube). Due to the attractive formula of the show, not only academic entities have shown interest in it, but other institutions too, like the Karkonosze’s Light Festival. Also, the shows have been organised not only on student dormitories but also such buildings as Sky Tower and Bank Zachodni WBK in Wrocław, or the Palace of Culture and Science in Warsaw.

Saturation with mediated processes and its effects

P.I.W.O. is interesting, first and foremost, due to the spectacular effects, in the preparation of which average recipients are involved. Using the animation creation software is relatively simple and stimulates creativity. The majority of amateur designers would have never reached for a similar tool if they did not want to send some unusual greetings or to share some interesting idea with the public, which sometimes reached even several thousand people³⁹. The animations were meant primarily to entertain, which is why the performances are dominated by entertainment in a very good atmosphere,

How do P.I.W.O. Shows lead to saturation with mediated processes? It results from the convergence of software tools (specialised proprietary programmes and an animation editor for amateurs), electrical tools (multi-colour LED bulbs etc.), and pure media (amateur, professional, and social). The discourse surrounding the shows is focused on entertainment, play, and the unusual form. The authors of P.I.W.O. Also emphasise the importance of practical vocational training and promotion of the university. On the other hand, they are also open to other kinds of cooperation. As can be read on the website of the project: “We offer You the ability to use the potential of Project P.I.W.O. Light Show to promote Your companies. We can prepare and promote a light show, created especially to suit Your

³⁹ *Projekt P.I.W.O w Szkle kontaktowym :-)* [P.I.W.O. project in the Contact Lens], P.I.W.O. project fanpage, <https://www.facebook.com/video.php?v=359301897440583&set=vb.112616425442466&type=2&theater> [accessed: 19 Mar 2015].

instructions and expectations. We offer the opportunity to promote Your brand in a special animation with sound that would be displayed on a building, a spot on the promotional posters and banners, acknowledgement in press release and Your logo being included in the official promotional videos posted on the internet⁴⁰.

Thanks to its originality, spirit, and constant development, P.I.W.O. is inevitably evolving towards commercial applications. On the one hand, it seems natural yet, on the other, it is no longer student avant-garde. Due to the saturation with light shows in various locations both in Poland and abroad, intensive promotion in traditional media (such as professional media joining the action) and social media, the nature of the project has changed entirely. After some time, the saturation with the mediated processes of entertainment, promotion, and practical vocational training enabled the authors of the project to gain financial resources not only from the sponsors of the Juwenalia festival but also from actual commissioners.

What is the shape of the space generated by the P.I.W.O. Light Show? Broadly speaking, it is urban space, narrowly, the space of a building. It is filled, first and foremost, with light and music. The building becomes a (sometimes gigantic) multi-pixel display. The organisation of the project involves not only the organisers but also inhabitants or workers from the building, whose consent or help may be indispensable to prepare the whole installation. This is why it sometimes involves hundreds of people. There is a virtual layer at the bottom of the event. On the one hand, complex software enables conveying messages through the structure of the building (with windows as pixels), on the other, the media content (animations) are created by average users. Thus, the space of media saturation is multi-layered and filled with diverse processes. The reception of the final version of the show is essentially the effect of work of many, often anonymous people.

Conclusion: the significance of functionality of open and closed spaces

The comparison between open and closed saturation spaces allows drawing the following methodological conclusions. In the research layer, both spaces pose significant difficulties in grasping the quantitative aspects of saturation, namely its degree, while the limited nature of the closed space of a mall potentially enables taking more precise measurements. Qualitative aspects seem easier to grasp.

⁴⁰ *Sponsor us*, P.I.W.O. official website, <http://www.piwo.pwr.wroc.pl/dla-sponsorow> [accessed: 19 Mar 2015].

Based on just two examples, it is not possible to perform a complex comparison of both types of space. It can be said, however, that the relationship between saturation and space stems from the functionality of the latter. Media functionality can be a permanent or temporary feature of a given space, which affects its use.

Closed spaces are often permanently medially functional, e.g., in Sky Tower the screens are present constantly and can be used by everyone during the opening hours. Their function is to inform, promote, encourage, etc. A screen matching the display rate to the pace and direction of customers' movement stimulates their interactivity. It allows users to respond to the message being sent. In its general construction, the screen is meant to generate interest with the place, the offer; create a good atmosphere; build a relationship with an interested customer included in the interaction; and encourage to return to the same place. The saturation with media reinforced with the appropriate public discourse shapes the image and identity of a given place, especially when it is temporarily not subject to saturation (e.g., during incidental events, like P.I.W.O.). Dormitories or other buildings with their areas used in the project do not serve a media function permanently. They become the scene of an event only for a specified time of P.I.W.O. project realisation. Because of the temporary nature of the event, and thus of media saturation, the spontaneous and incidental behaviour of users does not become fixed.

The functions of space correspond with the functions of the media present in this space. The temporal aspect (fixed or temporary) of serving the function affects the permanence of users' behaviour, and thus of the effects of the saturation. A permanently saturated space prepares, educates, and accustoms users to the mediated activities, and so becomes more strongly subjected to mediation. The temporariness accompanying the uniqueness and dramatism are conducive of instant but transient effects.

* * *

Saturation, in both its quantitative and qualitative dimensions, is specific for a given space, used media, and generated configuration of material and virtual components. The saturation with media should be a subject of media studies because of its effects. They are manifold, and so require interdisciplinary interpretations. Whereas studying the quantitative factors requires cooperation across both disciplines and branches of science (media scholars, sociologists, culture scientists, and economists with physicists, IT and electronics specialists, medics...) Such a cooperation could yield knowledge on, e.g., the correlation between the accumulation of media, intensity of magnetic field, etc., and health, social, or economic

effects. It also refers to the relationship between the presence of media and the degree of their saturation of objects, places, and space, and many aspects of human life. The association between media and the commercial, entertainment, or educational aspect is just a narrow section of the issue. Taking it up is justified by the growing importance of the Internet, mobile media, various media gadgets, and Big Data. Media saturation becomes something natural, therefore there is a risk that it becomes imperceptible or will be noticed only when its negative effects are uncontrollable or irreversible. On the other hand, there is a saturation potential which can be used in the right way provided that some rules of conduct are established to eliminate the threats. Here too, just as in many cases, the ethics of communication should be highly important. Therefore, the issue of saturation appears as a new trans-disciplinary problem⁴¹.

⁴¹ Some of the results of the studies discussed in this article were presented during the International Communication Association Regional Conference, Expanding communication: Old boundaries and new frontiers, Łódź 9 Apr 2015.