Viruses: Contagion through Transcription

An elementary process of transmission is painfully familiar: contagious diseases from the flu to AIDS are based on infection. ‘Infection’ (‘inficere’ is Latin for ‘contamination’) is part of the vocabulary of pathophysiology. Like few other medical terms, the ‘logic of infection’ is rooted deep in the everyday fears and hysterias of globalized societies. Moreover, infection has also been metaphorically adapted to explain cultural – for example, aesthetic – phenomena. It is obvious why the phenomenon of infection is particularly interesting here: it concerns a process of transmission through which the pathogenic agent finds its way from one organism to another. Could the observation of infection provide insights into the ‘nature’ of transmission that would be significant for media theory? The following considerations are based on this assumption.

On the Classification of Infectious Transmission

Infection is ‘transmission through contact’ and thus a ‘physical model of influence’. An organism is contaminated and thus changed through contact. Microorganisms spread disease by inhabiting a body, reproducing themselves, and then migrating to other bodies. From the perspective of the infected bodies, the pathogenic agents come from outside. They bridge the distance between the ‘source of the infection’, from which they originate, and their future ‘host’, which then becomes another ‘source of the infection’. Contagious diseases require a physical exchange between the organisms as well as between the organism and the environment. They therefore represent a genuine physical process: there is no infection without material changes. Moreover, infection always involves a multitude of bodies: to observe one infected body separately is to interrupt a chain of events and abstractly single out one particular link in this chain. From the perspective of transmission, infectious transmissions do not actually have any beginning.

The medical ‘nature’ of contagious diseases has only recently been understood. An insight into the transmission character of infection has been hindered by the almost unbroken acceptance of humoral pathology from antiquity to the modern era: according to humoral pathology sicknesses appeared to be caused by an imbalance or unhealthy mixture of bodily fluids. Humoral pathology cannot explain how something from outside is transmitted into the body. It was not until the 1840s that the Göttingen anatomist Jakob Henle postulated the existence of a ‘contagium animatum’ or pathogen that caused infectious diseases. In 1876 Robert Koch
succeeded in isolating, observing, and cultivating a bacillus that not only accompanied sickness, but was also its cause. The study of bacteriology was eventually founded, which paved the way for an understanding of infection as a contact and transmission event. An important milestone along the way was Louis Pasteur’s insight concerning immunization, which was achieved with great difficulty: An organism is not immune, but rather it becomes immune by receiving and being exposed to the disease-causing pathogen in a weaker form. If a body is immunized by surviving an illness or receiving a vaccination, it no longer serves as part of the chain of infectious transmission. Nevertheless – and this shows just how much the theory of immunization is connected to the insight concerning the physical character of transmission – the difference between activated and inactivated vaccines is crucial: Vaccines with activated, living pathogens not only prevent an outbreak of the sickness, but also halt the spread of the infection; vaccines with inactivated pathogens, on the other hand, make it very easy for the relevant bacillus or virus to be passed on. In this case – using the terminology of information transmission – a body is actually no longer a receiver, but rather an emissary of an infection.

Which insights about the ‘nature’ of transmission processes – understood in the literal sense – are revealed using the example of infection? Which kind of picture is obtained when ‘transmission’ is explicated using the model of infectious diseases?

(i) Embodiment: To start with, it is represented as a physiological event in which a natural substance and thus a material substrate is always transmitted. Something must be transmitted, a bacterium, a virus, a parasite: in other words, a ‘somatic entity’. The infected body is not only the ‘receiver’, but also the ‘host’, and he has an elementary economic relationship to the pathogen implanted in him, as it reproduces ‘at his own expense’.

Nevertheless, I want to focus on the transmission event itself more than economics. The pathogen comes from outside and infiltrates into the interior: a kind of ‘invasion’ or hostile conquest takes place. Infections always get ‘under the skin’. A dimension of violence is inherent to infectious transmission; this kind of transmission leaves victims in its wake. I will later return to this violent aspect of transmission. The relationship between exterior and interior applies to the macro and micro levels: At the macro level, it occurs between bodies; at the micro level, it occurs between pathogens and cells. Yet ‘from the outside inwards’ is always only a stage that follows immediately after ‘from the inside outwards’. The dual process of inclusion and exclusion constitutes the ‘chain reaction’ of infection. Every component of this chain is at the same time both a receiver and a sender of the pathogen.
(2) Transmitting Medium: Transmission is impossible without a transmitting medium. The function of the transmitter depends on the perspective from which the infectious event is observed: From the perspective of the pathogen, air, bodily fluids, skin, or simply food and water serve as means of transportation. For a parasite, entire organisms could also fulfil the function of a ‘transport host’. When the sickness is regarded as the thing to be transmitted rather than microorganisms, then a bacterium or a virus plays the role of the transmitter.

In any case, infections cover great distances. They are events that consume space, possibly through rampant epidemics. These means of transportation and transmitters of medical infection represent an elementary form of ‘media’. It is nevertheless necessary to remain aware that the question of which transmitting medium is in force can only be answered in relation to the question of what is the object to be transmitted. What constitutes a medium in the course of infection is relative to and dependent on the position of the observer. It is nevertheless clear that an infectious transmission is impossible without a (transmitting) medium.

(3) Milieu: The invasion of the pathogen into the healthy organism is contingent on certain conditions. It is therefore necessary to put the inevitability of infection in perspective: Infection is by no means a deterministic process. A body can be insusceptible to an infectious disease through its own natural defences or an acquired immunity. Both of these forms of resistance reveal important aspects of infectious transmission. The fact that physical resistance can hinder an infection shows that the presence of a pathogen and its transmitter is actually necessary but not sufficient for an infection. In order to be able to misuse an organism as a host, a pathogen always needs a milieu. This ‘milieu’ depends on whether the skin is unharmed, the acid protection layer is adequate, bacterial flora is intact, the organism is sufficiently nourished and hygiene conditions are observed. In short: whether the milieu is favourable or unfavourable varies according to the pathogen, but infectious transmission always requires and depends on a milieu. The degree to which an organism is plagued by an infection is thus out of the question.

(4) Immunity: While the body’s natural defences call attention to the significance of the milieu, immunity points to some exceptional features of the relationship between the pathogen and the ‘host’. Immunization occurs precisely when the body experiences a sickness and develops the appropriate antibodies: In order to invade the host body, the pathogen must always occupy ‘foreign’ territory, which differs from itself. A divide between the ‘self’ and the ‘foreign’, an asymmetry and heterogeneity, creates the
conditions under it is possible to speak about infectious transmission in the first place. The art of vaccination consists precisely in making the pathogen feel ‘at home’ in a body such that the generic divide between the infected and the non-infected organism collapses, it is no longer possible to distinguish between them pathogenically, and transmission is thus precluded. Is it trivial to state that there is no infection without a difference between a body with a pathogen and a body without a pathogen? In any case, this statement is obvious when one realizes that infectious transmission means not only that a pathogen is transmitted from A to B, but also that there must be a substantial difference between A and B, whose ‘pull’ first sets into motion the motor function of the infection process.

**Viruses: Biological and Technical**

The language of medical infection has been used to describe an astonishingly wide range and abundance of non-medical facts. Furthermore, the ubiquity of the vocabulary of infection outside of the medical and scientific disciplines is if nothing else thanks to the attention of that special form of infection associated with viruses. The concept of the ‘virus’ has been identified as a leading metaphor for contemporary culture, a ‘collective symbol’, and an exemplary stereotype that has the power to relate various specialist discourses, through which science differentiates and fragments itself, and to cement itself firmly in everyday common knowledge. So what does ‘virus’ mean?

Viruses do not live; they do not subsist and grow. Viruses reproduce, but their reproduction is not automatic. Viruses are a complex of macromolecules that consist of genetic material, DNA (deoxyribonucleic acid) or RNA (ribonucleic acid), and protein molecules, which surround the virus gene. In order to reproduce they require suitable host cells. This peculiar method of reproduction, which does not have its own metabolism but rather exploits an existing mechanism of self-reproduction from a ‘host’ external to itself, is the basis of the virus principle. Without their host viruses are simply lifeless structures, like chemical compounds, but through their contact with cells or living entities ‘they are awakened’ and develop resourceful reproductive strategies.

The form of reproduction specific to viruses requires a virus to infiltrate a system that has not yet been infected and use its reproduction mechanism, and thus its genetic structure, as a medium for its own reproduction; as a result, the newly formed viruses must then look for new hosts. Viruses are highly specialized parasites. By infiltrating a foreign cell, the biological virus uses the cell’s own processes of replication, transcription, and translation for the reproduction of its own genetic material. The genetic material of
the intermediate host of a virus is thus transliterated into the DNA/RNA of the virus, and different viruses employ different methods of ‘encoding’ their genes onto the genes of their host cells. The crucial insight here is that transmission through viruses can be understood as an act of a transcription.

This cellular activity reveals the substantial basis of the family resemblance between biological and technical viruses, as machines also ‘infect’ one another. There are actually many similarities between the cellular mechanism of replication, which as ‘molecular machinery’ relies on reading, processing, and relaying information, and the mechanism of a self-reproducing machine or automaton, as modelled in the program of the Turing machine, which transcribes and reads. Indeed, there are so many similarities that there are currently attempts to construct ‘biological calculators’ that can be implemented in an organism and function like an immune system by identifying and exterminating diseased cells – a vision of a ‘vaccination’, therefore, that works with technical rather than biological pathogens.65

The concept of a ‘computer virus’ seems to stretch the medical terminology to a metaphorical extreme, yet computer viruses and biological viruses have so much in common that it is possible to refer to two versions of a ‘virus principle’,66 which suggests that this concept can be understood in an absolutely literal sense.

A computer virus is a part of a program that encodes itself in a ‘host program’ on another computer. When the user activates the infected program, the virus can disrupt or even destroy digital ‘materials’, like data, hard drives, diskettes, and programs. In the process of infiltrating the other computer, the virus also simultaneously replicates itself. The infected program thus becomes a medium through which the virus is able to copy itself onto more files and computers. Computer viruses that spread in an epidemic manner are known as macro viruses. They are relayed not through programs but rather through frequently exchanged documents, preferably as email attachments. Computer viruses can also be distinguished from ‘computer worms’, which Florian Rötzer compares by analogy to viruses like bacteria.67 Computer worms are self-contained, self-reproducing programs that automatically spread through networks by detecting security flaws, using them to infiltrate systems, and then, for example, multiplying the address files in an email program.

Computer virus problems increase in proportion to the amount of networking. Just as an infection between people requires their interaction, if not immediate contact, so too does an infection between machines require interaction. Machine interaction only refers to the exchange of data and
programs, but this is also true of biological infection when viewed on a cellular rather than a personal level, as a biological virus also transcribes the DNA of a cell and ‘exchanges’ information in the literal sense of the word.

**Productive Dimensions of Parasitism**

The previous description of infectious diseases emphasized that the invasion of the pathogen represents a violent exertion of influence, which constitutes the basis of this form of transmission. However, there is more to parasites – in the broadest sense – than simply sickness and death for people or malfunction and destruction for machines. Without a doubt, parasites live off of others; they are freeloaders. Parasites are thus often seen as failures and vermin, but it is possible to reverse this emphasis. Before the word ‘parasite’ experienced a shift in meaning and became synonymous with freeloader, the ancient word ‘parasitos’ referred etymologically to the prestigious attendants invited by priests to holy banquets held in honour of the gods. The word ‘parasitos’ thus originally referred to a ritual functionary, but it already experienced a negative reinterpretation in ancient times and in the nineteenth century it was taken over – in the sense of an occupation – by the natural sciences. From a biological viewpoint, parasitism always establishes a (precarious) balance, as the parasite depletes the host’s energy while at the same time it is also interested in preserving the vital functions on which it lives. The host ensures the parasite’s survival. They both adapt in a kind of co-evolution. The parasitic lifestyle is one of the most successful in the animal world. Are there any systems at all without parasites? Nevertheless, asymmetrical symbiosis is simply a basic phenomenon in the development of the living. It gradually leads to the development of well-adapted species and the disappearance of poorly adapted species. In short: evolution would be unthinkable without parasites. The parasite ‘produces small oscillations of the system, small differences’.

It was Michel Serres who drew the radical conclusion that the border between parasitic and non-parasitic life was fluid. For him, the parasitic relationship evolved into a community-endowing elementary form of intersubjectivity par excellence; the parasitic is interpreted as the ‘atomic form of our relations’. For him, the essence of parasitism is not the one-sided damage to the host, but ‘simply’ the disproportionate ratio of giving and taking. If ‘to parasite means to eat next to’, then the humour of this statement lies in the fact that people are always parasites as they are integrated in an irreversible chain of one-sided giving and taking. Due to the unidirectionality of this chain it is not actually exchangeable, but it is balanced by the
multidirectional diversity in which people become either parasites or their hosts. For Serres, therefore, the ‘logic’ of the parasite constitutes the basis of all social relationships, and the essence of this ‘logic’ is non-reciprocity.

Something clearly emerges in the figure of the parasite that is also significant for medical and technical infection. On the one hand, there is the one-sidedness of transmission, which requires the existence of a difference between two bodies, organisms, or programs; the direction of the transmission is thereby unambiguous and irreversible, and it thus proceeds asymmetrical and not reciprocally. On the other hand, it is significant that parasitic transmission involves not only a destructive but also a constructive potential that promotes cooperation and symbiosis.74

It is no accident that computer worms exploit security flaws in operating systems and thereby at the same time call attention to those flaws, which are all too easily overlooked in the course of an operating system’s practical use. Computer worms thus encourage the ‘healing’ – or should I say ‘immunization’ – of operating systems. In order to turn to a decidedly metaphorical75 use of the vocabulary of infection, the interrelationship of infection and immunization now provides a key term – namely, the social contamination caused by violence between the groups of a ‘social body’.

The Epidemic of Violence and the Sacred Victim

Violence infects; violence violates. With its coerciveness and its potential for destruction, there is hardly any other behaviour that so strongly resembles a disease whose subversive power comes from the circulation of transmissions than violence, which obeys a logic of revenge. Infection produces sacrifices. René Girard interprets the holy institution of the sacrifice as a strategy of immunization directed against the epidemic spread of reciprocal acts of revenge in archaic societies, which do not (yet) have legal institutions.76 And in an ingenious essay Dirk Setton shows how, with the help of the terms of infection, Girard’s cultural anthropology of the sacrifice, which is motivated by religious theory, as well as Levinas’s philosophy of the incomprehensible singularity of the other, which is motivated by ethics, each reveal violence as the sublime common cause of problems that are then overcome in some way or other through religion and ethics: “The problem of infectious violence lies at the heart of religion and ethics.”77 In the following I will only take up Girard’s religious considerations, which primarily interpret the sacrifice as an immunizing instance in situations of infectious violence.78

The holy sacrifice is usually interpreted as an act of mediation between humans and god, and it thus becomes a social activity that is more or less inconsequential in the space of the imaginary. In contrast to this notion,
Girard wants to show that sacrifice fulfils real interpersonal functions. This first becomes evident when the sacrifice is seen as a form of mediation not between humans and god but rather between the members and groups of social communities.

The starting point is the observation that in archaic societies violence and disease are both identified with the impure or the infected, so they are both to be approached with ritual efforts. Under archaic conditions, violence triggers a chain reaction of reciprocal acts of revenge. An act of violence against a member of a family or clan prompts a reciprocal act by this group against members of the other family or clan. Violence thus activates a ‘logic of infection’ and acquires a ‘viral power’ within the social body, which can only be averted through strategies of immunization. The institution of law and the monopoly of violence associated with it can actually be interpreted as disrupting the continuous chain of reciprocal violence insofar as the judge’s verdict constitutes the last form of revenge, which cannot be transmitted any further. Girard’s premise is that societies without legal institutions attempt to stop the epidemic spread of violence through the rite of sacrifice. From this perspective, law and holy sacrifice prove to be equally pragmatic and functional.

What is most interesting about Girard’s theory is not only the epidemic character of violence, the chain reaction of circulating violations in the social body of a society whose logic of infection weakens and undermines the community, or its resolution through the immunizing strategy of sacrifice. It is even more significant that Girard explains the immunizing function of sacrifice by describing it as the mediator of a transmission event. The potential for violence is transmitted to the sacrifice – in an absolutely literal sense – and it can then be allayed and overcome in and through the sacrifice. The special status of the sacrificed thus becomes significant; like the neutrality of the messenger, it is caught between competing groups enmeshed in the reciprocal use of force. In a sense, the sacrifice is ‘innocent’ and indifferent; above all, however, it must be free of the reciprocal obligations and responsibilities of the members of a social body (i.e. the responsibility to exact revenge), and it is thus outside the social order. It is the scapegoat. Prisoners of war, slaves, foreigners, unmarried youth, but principally animals were thus especially predestined to assume the role of the cathartic sacrifice.

The sacrificed becomes a ‘neutral’ medium, which absorbs and embodies the community’s potential for violence; the sacrifice ‘is a substitute for all the members of the community, offered up by the members themselves’. Communal killing or the collectivity of murder appeases and spares the
reciprocally injured and dead. From this perspective, the sacrifice is no longer considered an exercise of violence against an individual, but rather as an act of violence against the scapegoat it constitutes at the same time a protective barrier against violence within the community. Girard thus interprets sacrificing as a process of immunization.

In a virtual reversal of perspective, I will now turn to another field in which the vocabulary of infection can be applied: the aesthetic experience. The issue here is that the intellectual immunization inherent to theatre as a symbolic, representational institution is always also subverted by the theatrical performance, insofar as a kind of bodily infection emerges precisely in the here and now of the presentation.

**Infection as a Form of Aesthetic Experience**

With the concept of catharsis, a medical term was employed early on to attempt to describe and theoretically explain the effect of theatre on spectators. ‘Catharsis’ means bodily purification for the purpose of healing. Erika Fischer-Lichte shows that it also makes perfect sense to use the concept of infection, which like catharsis refers to the transformation of a body (albeit in the opposite direction, from health to sickness), to express a modality of theatrical experience. Moreover, the ‘logic of infection’ of this theatrical experience is appropriate for expressing in a significant way the relationship between artists and spectators as it pertains to the development of performance art since the 1960s. I will now illustrate the basic intention of Fischer-Lichte’s aestheticization of the concept of infection.

Infection occurs between bodies. It is therefore above all the dimension of corporeality in the experience of art, which is thematized in the idea of aesthetic infection: ‘The concept of infection conceives and describes aesthetic experience in the theater as a primarily somatic process.’ The theatrical performance depends on the physical co-presence of actors and spectators in a shared space: the prerequisite for an infection is thus definitely fulfilled. However, unlike medical infection, which requires actual contact and the exchange of organismic material, theatrical infection only happens through the gaze of the spectator: ‘The infection takes place in the act of watching, it is the act of watching.’ The spectator only changes through looking: a kind of ‘white magic’ takes place in his gaze, in contrast to the ‘black magic’ of the evil eye. The fact that the somatic character of infection takes on almost magical properties here illustrates how much the terminology of infection sees itself as a counter project to a hermeneutically-oriented understanding of visual perception. The spectator is not (any longer) considered to be a distanced or even indifferent
observer who reflects upon what he perceives. The somaticity of infection aims to subvert the reduction of watching to a mental process. Moreover, a pre-rational, pre-reflexive relationship between the actors and spectators also unfolds. The spectator’s gaze is not directed towards the role and figure of the actor, or his semiotic body, but rather it is directed towards his phenomenal body. The infection of the spectator consists in the fact that ‘powers released in the body of the actor are perceived by the spectator’s gaze and are thereby able to influence and transform the spectator’s body’.89

Insofar as the concept of infection is based on the physiological effects on the spectator, it is no surprise that after this concept was codified in the seventeenth and eighteenth centuries the vocabulary of infection was then replaced by a notion of art reception with the proclamation of the autonomy of art in the nineteenth century, which was geared towards empathy and thus a spiritual-mental process.90 Infection took on the negative connotations of ‘weakness’ and ‘contamination’, and it was not revisited again until the twentieth century when Antonin Artaud compared the theatre to the infectious effect of the plague, as it similarly provokes a crisis in the spectator.91 For Artaud, the theatre can heal people in the Western world, who are ill with logocentrism and individualism, as it activates a ‘kind of counter infection’.92 The arts since the 1960s have absorbed the corporeality and materiality-oriented impulse of the historical avant-garde: action painting, body art, performance art, or scenic music not only bring the corporeality of the actors into play, but at the same time they also target the corporeality of the spectators themselves.93 When artists injure themselves during a performance, when they overexert themselves to the point of physical exhaustion, when they display sick and frail bodies, when they make the intimacy of their nakedness public, these all lead to bodily reactions in the spectators themselves, to physiological, energetic, affective, and also motoric states. This physical involvement – among artists as well as spectators – reflects an understanding of aesthetic experience as a somatic process, which lends a new actuality to the concept of aesthetic infection: It thus seems ‘sensible and worthwhile to theorize the concept of infection, which until now has been applied metaphorically in the discourse of aesthetics, in the same way that the concept of catharsis has been theorized over the course of many centuries. For it appears in many respects to be the more important concept today.’94

Transcription and Mimesis

Take a step back from the panorama that has been presented thus far, which includes medical, technical, social, and aesthetic forms of infection. By discussing infection in terms of biological and technical viruses, it has
been revealed that ‘transcription’ is the central mechanism of transmission. The power of transcribing is precisely that it levels a systemic difference, the difference between self and other, which is the driving force that sets an infectious transmission in motion in the first place.

Could this equalization of difference through transcription also be reconstructed as a mimetic potential?

René Girard actually emphasized that the rite of sacrifice turns everyone involved into ‘doubles’ whose attitudes converge as they are linked together and communitized through the shared guilt of collective sacrificial murder.95 The act of sacrificing establishes a mimesis between the sacrificers, and the sacrifice thus becomes a mediator between them. For Girard, as Gunter Gebauer and Christoph Wulf point out, ‘mimetic mediation’ is actually an anthropological fact and a ‘general principle of society’.96 Moreover, mimesis is an effective although historically transitory principle of art that nevertheless inevitably entails an anti-mimetic critique and must then give way to a semiotic paradigm (Girard explains this using the example of Romantic literature).

The relationship between mimesis and semiosis is connected to the concept of theatrical infection. From the semiotic perspective, the actor plays and represents a role while the spectator observes the stage event from a reflexive distance: This made the theatre into a paradigmatic model of the symbolic culture of representation, which seems precisely to overpower the mimetic as a mode of action and interaction. From the somatic perspective, however, the theatrical infection grips spectators in a way that is beyond distance, reflection, and control, and it is always also interwoven with the idea that the actor is not only a symbolic body, but also a phenomenal body. Doesn’t this suggest that the vocabulary of infection undermines the logic of representation insofar as it features a mimetic dimension? Does mimesis thus constitute an anthropologically fundamental form of transmission, which is embedded much deeper in the representational processes of semiosis than is commonly acknowledged?

So What Does ‘Transmission through Infection’ Mean? A Conclusion

1) Somaticity: One characteristic of transmission that occurs as infection is the explicit corporeality of this process. From a biological – as well as technical – perspective, this means that a pathogen is only transmissible through contact and that the infection then results in a transformation of the infected body. The use of the concept of infection in non-biological contexts is thus always also a counter-project to mentalistic, rationalistic, or ‘disembodied’ concepts of influence.
(2) **Heterogeneity:** Transmission occurs between systems that vary enormously, regardless of whether this is described as a difference between self and other, healthy and sick, host and parasite, actor and spectator, or rival clans/families. Strategies of immunization depend precisely on the possibility of levelling and erasing this heterogeneity in favour of homogeneity. If the divide created by a difference disappears, then there is also no infection (any longer).

(3) **Non-Reciprocity and Unidirectionality:** Although both sides must be in contact in order for transmission to occur, infectious transmission is not an interrelationship, but rather it is one-sided. Thus there is also an interval through which a body can first become the receiver and (then) the sender of a pathogen.

(4) **Transcription:** The primary device used in the particular kind of infection that occurs through viruses is transcription. It is the unique mechanism of transmission that makes viral activities so instructive. Although somaticity constitutes the fundamental characteristic of disease transmission, the physiology of transmission through viruses is linked to information processing, which is reflected in concepts like ‘transcription’, ‘coding’, ‘reading’, and ‘translating’. At the same time transcribing is also related to mimesis. Does mimesis constitute the source of an interconnection between the symbolic and the phenomenal, the mind and the body? Does it constitute a strategy that equalizes the divergent without abandoning divergence?

(5) **Violence:** Violence is inherent to infectious transmission in many respects: (a) pathogens are invasive. They have an elementary power with nearly compelling effects. This also means that something happens to the infected; he performs a passive role insofar as the event is largely beyond his control. This ‘compulsion’ is particularly significant when it is emphasized that the concept of ‘infection’ refers to a non-mental, non-reflexive process. (b) This violence is mirrored once again in the violence of the counter-measures used to resist them. Immunization thus represents the controlled implementation of a disease. Above all, however, the isolation and exclusion of quarantine is an element that is experienced as violence by the parties affected.