

IRREGULAR SETTLEMENTS INTO PROTECTED NATURAL AREAS: GOVERNMENT ACTIONS, SERVICES AND URBAN PLANNING¹

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Abstract

In this paper, I try to analyze the rise and development of irregular human settlements in Natural Protected Areas, phenomenon that exceeds the lineaments of local and environmental urban planning since this kind of settlement. On the one hand, it generates precarious conditions due to the lack of basic services (mainly water and drainage) and public infrastructure. Other conditions are the risk of landslide, mudslide, and the extreme weather conditions that inhabitants are exposed to. On the other hand, it accelerates the deterioration and loss of areas that perform important environmental functions, i.e., the recollection and recovery of the underground waters, the capture of carbon dioxide, the decrease of recreational spaces and culture necessary for the local and metropolitan population.

Key words: Irregular settlements, natural protected areas, urban planning.

Introduction

In view of the necessity of preserving natural zones of great relevance in the regional-urban territory, which provide services and environmental functions that help maintain the ecologic equilibrium in the relation population and environment, the Government has propitiated policies to that enforce urban-environmental political instruments such as the Natural Protected Areas (ANP), which can be declared as such by the three government orders: Federal, State, and Municipal. Their implementation requires the emission of a bill in which delimits a zone. The bill has to specify the use of the soil as well as the purposes it has been created for and the activities that are allowed in this protected territory. Creating a law for the Natural Protected Areas does not mean

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expropriating the soil, but delimitating, sometimes, in an absolute manner its use for productive purposes.

The territories that are used as irregular human settlements are threatened by phenomena of natural as well as anthropogenic origins. With respect to the ones of anthropogenic origin, we found the proliferation of irregular human settlements and the spatial unfolding of rural and indigenous communities that originally sheltered.

In this paper, we try to analyze the rise and development of irregular human settlements in Natural Protected Areas, phenomenon that exceeds the lineaments of local and environmental urban planning since this kind of settlement. On the one hand, it generates precarious conditions due to the lack of basic services (mainly water and drainage) and public infrastructure. Other conditions are the risk of landslide, mudslide, and the extreme weather conditions that inhabitants are exposed to. On the other hand, it accelerates the deterioration and loss of areas that perform important environmental functions, i.e., the recollection and recovery of the underground waters, the capture of carbon dioxide, the decrease of recreational spaces and culture necessary for the local and metropolitan population.

A case study of a settlement of irregular origin, situated on the territory of the Natural Protected Area of the State Park Otomi-Mexica in Huixquilucan, State of Mexico, was developed. Hielo neighborhood was established at the beginning of the 90's with the support of Municipal authorities. Years later, the land regularization started with the process of separating this polygon, which includes this neighborhood, from the rest of the protected Area to begin the introduction of basic services. However; until today, the neighborhood still lacks tap water and drainage, which results in precarious conditions for its inhabitants and in irregular waste discharges to the environment.

This study attempts to analyze the political participation of different actors involved in this phenomenon. We propose a restructuration of the public action that influences the orchestration and creation of Natural and Protected Areas laws of State jurisdiction.

Environmental protection, urban planning and irregular settlements

The enforcement of environmental legislation has to deal with the delineation and application of public policies. The State needs to create a judicial framework at the moment in which values and juridical goods require to be protected to sustain its will. In Mexico, according to article 73, fraction XXIX G of the Constitution, the structure of the application of environmental law is concurrent within the three levels of government competency that exist for that purpose; as a result, the application of environmental law takes place at the Municipal, State, and Federal levels respectively (Schteingart and Salazar, 2005:33).

The case we are presenting here is of the foremost interest due to the juridical contradictory aspects observed on the territory analyzed, which result in irregular human settlements based on the appropriation of protected natural resources. This case is similar to the traditional formation of any irregular settlement through the occupancy of land along the city suburbs by low income families who come from rural areas or by intra-urban metropolitan migration. These families' housing needs and the lack of cheap legal lots have resulted to be a central element of illegal settlements formation. Farmer families attracted into the city by the hope of better living conditions settle illegally in lots protected by environmental laws. These lots lack basic urban services like water and drainage, juridical security sometimes they are illegally possessed and illegally sold. When they are illegally sold, the sellers arrange the price and payment conditions to make them affordable for these people- e.g. no down payment, installments, and payments that do not exceed the 5 to 10% of the family income with the aspiration of having even a precarious house product of the auto building method. One interpretation of this illegal exchange has been the historical interaction between formality and informality, which even the government itself cannot disarticulate, as well as knowing that the governmental organisms in charge of regularizations design global strategies present in every relation of urban land's production regular and irregular (Huamán, 2000:92).

Therefore, the regularization policy presents several advantages for the government: it does not require, in itself, budgeting resources; it is compatible with the current

neoliberal orientations as it allows to 'consolidate property' and facilitates the development of the real estate market; and it implies 'sharing' of goods (the juridical legitimated property) that only the government can provide and that are highly valued (Duhau, 1998: 290-291).

The relationship between the government party, authorities, and social organizations has a more ample spectrum than only the lots negotiation. These organizations have an enormous diversity of objectives that are exposed to the authorities on everyday bases (Cisneros, 1993:101). This explains that social movements are the antithesis of the daily and institutional norms because they stand out from the normal events and bring out to light the conflicts that otherwise would remain invisible (Cisneros, 2001:9).

In this context, this study tells us that there is a close relationship between the extraordinary population growth (through irregular settlements) in protected territories, and the different government, political, economical, and social institutions (involved in the irregularity and regularization) that are taking advantage of the urban and environmental authorities, the low economic class of its inhabitants, and the precarious conditions of the ghettos and neighborhoods, to propitiate long irregularities and regularization processes, which will lead to accessing the land for housing and to profiting in multiple economic and political ways. Constituting an interactive irregular-regular scenario of agreements and negotiations, whose field of action is defined by the government interaction and by the social organizations' interaction at the edge of the environmental-urban laws, where politics are generated from the institutional interchange among the three governmental levels.

Private, public, and social actors involved in the urbanization process and the negotiation of public and infrastructure services

The 'Hielo' neighborhood is situated on the territory of the Natural Protected Area of the State Park Otomi-Mexica, north of Huixquilucan Municipal, in the State of Mexico, over a coat of 2800 feet above sea level. According to the Municipal Development Plan, it

has a population of 3176³ inhabitants and belongs to the popular zone of Huixquilucan. The data we will present were collected through surveys, interviews with key informants and inhabitants of that neighborhood, as well as through physical recollection onsite.

Background

The “original” owners of the land where the ‘Hielo” neighborhood is situated nowadays, were farmers from the town of the Magdalena Chichicapa⁴, who used this land to grow barley, oats, corn, beans, maguey, and to breed cattle. The land’s ownership was private property, and they were never part of a common (ejido) or community.

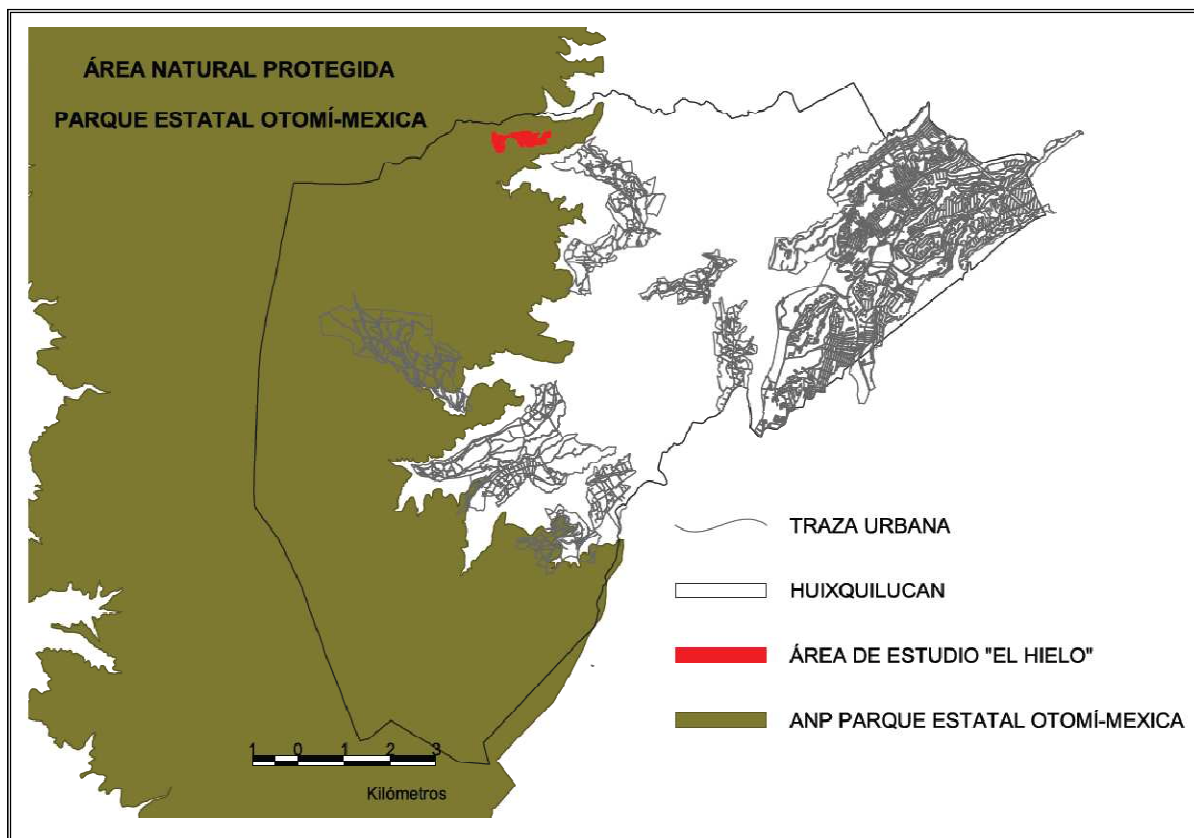
During the 50’s, the federal government built the Naucalpan-Toluca highway, which is situated just meters away from this neighborhood. Years later, around 1970 Luz y Fuerza del Centro (the Electricity company) installed high tension towers crossing the zone of the study, and, according to testimonies from old farmers, the electricity company did not compensate the owners of the land, which implied that they continued cropping there. In 1980 the governor of the time signed a law creating the Natural Protected Area of the State Park Otomi-Mexica. In the third article of that law, the causes of public utility were established. Among those are: forestation and reforestation, pluvial flows control, water absorption, flooding and erosion prevention, soil improvements, development of forestry programs, forestry exploitation, programs for agricultural and cattle mountain, touristic infrastructure, prohibition of constructions that impedes its well functioning, and human settlement restrictions⁵. The park’s territory extends over 15 counties of the State of Mexico. In Huixquilucan’s case, almost half of the municipal’s territory is inside the park.

³ Huixquilucan’s Municipal Development Plan 2006-2009.

⁴ Town situated Southeast of Hielo neighborhood.

⁵ Law of the creation of the ANP State Park Otomi-Mexica.

The area of the study, Hielo neighborhood, Huixquilucan



Source: Elaboration by Rocío Rodríguez with cartography from CEPANAF.

It is important to point out that crop and cattle lands property of the farmers were kept inside the park's delimitation. One of the original owners, Mr. Jesus, told us that he and other owners knew of the park's creation, but since their lands were still theirs even if they were inside the park, they felt they still had the right to keep cropping.

In the mid 80's, some of the owners of lands next to the Naucalpan-Toluca highway stopped cropping and started selling their lots, and they sold their lands to realtors. Realtors advertised the lots with pamphlets where they advertised cheap lots for housing with the possibility of paying in installments and of immediate occupancy. Prices varies from 4 to 15 thousand pesos (around \$ 400 US to \$ 1500 US approx.) depending in the size of the lot (from 120 to 300 sq. meters). The first inhabitants arrived during the early 90's. Most of them were families from other counties in the same state and Mexico City, but also from other states in the Mexican Republic like:

Veracruz, Oaxaca, Hidalgo, and Michoacán. Several factors motivated the migration to that zone, the most relevant from personal stories were that the prices of the lots were affordable and they could pay in installments.

The sale and selection of the lots negotiations were made with the architect Antonio Posadas and other people who were introduced as owners of the land. Real-estate developers showed floor plans to the buyers so they could choose the lot they wanted to buy; at the same time, the developers demonstrated the scale-model showing the division of spaces, which included the installation of infrastructure and equipment in the neighborhood. There were lots marked to build a market, a church, a park, and two schools. All transactions were made through buy-sale contracts. There were very few who paid in full; most of them did it in installments due to their limited household income. Those who opted for the installments plan, were warned of making their payments on time, otherwise they would be evicted.

People interested in the lots and having made the first payment, according to the real-estate developers, were required to move in immediately. This way, new owners started to buy and carry construction materials to build their houses. Not all of them had the economic possibility of building their houses with bricks and concrete; a lot of families built their houses with less durable and cheaper materials such as cardboard sheets, plastic, and wires. The heads of families, with help of the other members of the group, were in charge of the construction of first inhabitants' houses.

In relation to public services, real-estate developers said that those would be installed as soon as more inhabitants moved into the neighborhood so that the newcomers could to pay less for the services.

The events described above happened according to interviewees personal recalling between 1990 and 1991. In the latter year, the municipal authority detected that some people were carrying construction materials into the zone and that they were building houses. This made it necessary to conduct an eject operation⁶ due to the fact that in

⁶ Article 5.35: The existence of irregular human settlements or its gestation could be denounced by any person to the competent municipal's or state authorities to the effect of stopping any construction, land division,

that zone it was not allowed to build because it was a non-urban area and because the lots were part of the State Park Otomi-Mexica.

Following the first ejecting operation carried out by the municipal authorities, more such operations were conducted afterwards. The new inhabitants argued trying to persuade the authority that they have bought or have been making payments to the owner, and for that reason they had the right to build and stay there. Inhabitants decided to organize a neighborhood association so that they could start several negotiation steps, the first one concerning their permanency in the lots they had already acquired. Once the organization “Asociacion de Colonos ‘El Hielo’” was established, the leaders presented themselves before the Municipal’s council representatives to explain their situation and to provide all the details of how they have established their homes in that zone.

The representatives from the administration as well as from the Municipal government of Huixquilucan did not take into account the consequences of allowing the neighborhood to be created because the urban and environmental conditions of the territory are not propitious for the urban housing development. Paraphrasing Clichevsky (2000:28), the State (the municipality) has “allowed them to do what they want” to be the clandestine actors or irregulars of the land, being more or less permissive, depending on political, economical, and social joints, that is, it has had an ambiguous behavior because it has not enforced the law as it has supposed to.

Neighbors’ participation in the services gestation

With the municipal’s authorities agreeing to continue constructing houses, more people arrived and moved to the neighborhood. Newcomers found out about the cheap lots from relatives and friends who were already living there. Once the conflict with the authority regarding their permanency was resolved, inhabitants started to demand, form

or lot sale without harm of presenting the penal denounces respectively. In the case of flagrance in the gestation and promotion of irregular human settlements, the municipal’s or state environmental authorities could instrument and execute immediately ejecting operatives as a security measure to avoid its establishment. Fifth Book of the Administrative Code.

developers in a first stance and from authorities later, the introduction of an infrastructure and services, mainly, water, drainage, and electricity. For which, the developers obliged inhabitants to affiliate to the Democratic Revolution Party so that through the party they could more easily 'fight' against authorities for the services they needed. Therefore, they were summoned to marches, meetings, and protests that were sometimes held to press the authorities to introduce the services in the neighborhood. At other times, they were summoned just to support candidates from that party. Developers warned the people - if they did not attend, they would not have the right to benefit from whatever they gained.

Water: the most pressing need

The pressure that the newcomers and the neighbors association put on the authorities in relation of the basic services (mainly drinking water) made authorities to order the distribution of water to inhabitants by trucks. At the same time, the neighbors association gestates with the Autonomous Drinking Water and Services Organism (Organismo Autónomo de Agua Potable y Servicios-Oaaps), without obtaining a positive response because the neighborhood was an irregular settlement, and none of its inhabitants had in its power titles showing legal propriety, which were needed to make the water contract. Moreover, the location of the neighborhood above 2800 meters above the sea level impeded the water supply due to the costs of pumping the water to that height.

Since 1992 to this date, the municipal has never stopped supplying water to the neighborhood, even when it is an irregular human settlement. This is done without any cost for its inhabitants.

As it was mentioned above, the 'Hielo' neighborhood receives water from water trucks that the municipality sends with a minimum frequency of 8 days apart; in the worst case scenario, the supply take place every 15 days, depending on the functionality of the trucks. The amount provided to each house is about 5 or 6 barrels of 100 liters each. Those barrels are located in the street; the piping to the house is not done through haulage with pails, but through hoses which carry water through gravity.

The same lack of water situation made families to recycle water. In the survey we carried out, we asked 'Do you recycle water?' 75% answered positively to the question. Water once used to do laundry or to shower is stored to be used in the toilet or to clean the house (mop, clean the bathroom, the yard, and to water the plants).

Some inhabitants mentioned that the water supplied to them came from springs; however, the transport in the water trucks and storage in the street barrels and water tanks makes this water unsuitable to be used to drink or cook. As a result, the inhabitants need to buy bottled water for personal consumption and cooking; some families' need 3 to 4 20 liter bottles of water per week, and prices vary depending on the trade mark, the least expensive being about \$ 1.5 US, which is the equivalent of spending \$ 6 US per week on drinking water.

Drainage

Since inhabitants moved into the neighborhood, the alternative in regard to the lack of sanitary drainage was the construction of septic tanks outside the houses. The first attempts to introduce sanitary drainage started in 1993 when the neighbors association gestated with the municipality and elected candidates for popular election positions (Federal Representatives).

The first answer came from the Federal Representatives candidates and later from the municipality. Both gave them the construction materials to start the introduction of drainage (pipes, picks, shovels, wheel barrels). Once they had all the materials, the inhabitants organized themselves with the same street neighbors to divide the labor to set the pipes. According to several interviewees, it is during electoral times when "we received more help from the government as from the candidates interested in getting our vote".

This way, inhabitants of this neighborhood, little by little, succeeded in introducing drainage to the neighborhood. Currently, the west side of the neighborhood a the drainage infrastructure, and it works, but discharges in a near gully. The houses from the central and east sides of the neighborhood are connected to the public drainage net, but this is not used because it does not have a place to discharge. Houses which are

not connected to the public net use septic tanks, and they get rid of dirty water by throwing it out to the street.

Pavement, electricity, and telephone

The strategy for obtaining materials to pave the streets in the neighborhood was the same as that for installing the drainage system. In this case, it was the municipality which greatly supported the provision of materials. It was in 1995 when the neighbors organized the community labor to start paving their streets. The same was needed urgently for the constant and the intense rain the rage the place .Not all participated in the public work, arguing that they did not have money or time, which is why some streets are partially paved. The actual municipal administration has given itself the job to pave the main streets from the neighborhood with hydraulic concrete.

The same year, they started paving and they installed electricity in the neighborhood. The neighbors association tried to negotiate with the official from the Direction of the County's Urban Development, who told them that he could not intervene with the electricity company because the neighborhood was an 'irregular settlement' and because it was inside the Natural Protected Area. For this reason, the neighbors association went directly to the electricity company to ask for the electrification of the neighborhood, a request that was accomplished with the help of the old inhabitants as well as the newcomers.

In 2005 many negotiations between the association and the telephone company (TELMEX) resulted in the introduction of public and private telephone lines.

The disincorporation of the land occupied in the Natural Protected Area, morphology and the local environment

Fourteen years after the foundation of the neighborhood, the mayor, pressed by the neighbors of the 'Hielo', gestated before the governor the disincorporation of the neighborhood from the State Park Otomi-Mexica, about 30 ha. That gestation was culminated in 2005 with the disincorporation law issued by the state government. The

objective of the disincorporation from the public service of those 30 ha was to regularize that area of land and to be able to offer municipal services demanded by its inhabitants.

As a part of the field work carried out in the ‘Hielo’ neighborhood, a physical study was conducted, which allowed us to obtain important information about the physical structure of the neighborhood, the current situation of the public services, the infrastructure localization, and the use of the land. This information made us understand the environmental charges due to the settlement within the Natural Protected Area.

The polygon that includes the ‘Hielo’ neighborhood is surrounded by forestry land, which seems threatened due to the natural growth of the neighborhood and the influx of newcomers during the last years, these newcomers have been taken little by little more and more land of this protected area. These newcomers are settling outside the polygon, which does not belong to the Otomi-Mexica park.

Sixty percent of the neighborhood housing does not have sanitary drainage; they use septic tanks, and the discharge of used water is done by throwing out the water in open air. The other 40 % that has drainage, discharges used water without treatment in a nearby gully.

The entire neighborhood lacks a drinking water net. This service is provided through water tanks to barrels outside the houses; from there it is piped inside the house with hoses and stored in water tanks.

The infrastructure that the neighborhood counts on (courts, churches, market, schools) is located under the high tension towers which belong to the federal government.

The main streets from the neighborhood are paved with hydraulic concrete. Here it is important to mention that the possibility of other alternatives to pave the streets (e.g., ones that affected the environment less) was not considered. Zones with a high land inclination to dispose solid waste were identified. The existence of illegal activities such as a brick factory and a hog breeding place are illegal activities not allowed in residence zones.

Conclusions

The case study presented resulted in three concluding points:

1. The problem generated by the enforcement of the environmental urban laws,
2. The development and expansion of irregular human settlements, and
3. The interrelated city informal-environment

With respect to the first point, the juridical inconsistencies associated with the inefficacy of the urban administration, maintain a favorable situation for the use of the protected land. Meanwhile, if there is not a political willingness to maintain the ecological equilibrium between the population and the environment, the authorities' flexibility will continue as until now regarding the enforcement of the urban environmental laws. Moreover, the following has to be taken into account:

- a) The Natural Protected Area is from state jurisdiction, and it was created in 1980; from that moment until today, it does not have a plan to manage it. It is expected that the environmental authorities from the State of Mexico are responsible to elaborate that plan.
- b) The State Commission of Natural Parks and Fauna, a decentralized organism from the state government, became involved only with the purpose of making a technical- justifying study trying to persuade the government to reject the petition of disincorporation of the polygon, which included the "Hielo" neighborhood.
- c) The participation of the municipal government has been limited to executing public work like any other urban place without considering the environmental conditions.

The second point, the rigidity of the norms and regulations, contradicts the traditional regularization of irregular human settlements. During election times, policies favor the neighbors and not to the protected areas. Likewise, this favoritism is linked to the constant perfectionism of the social organizations and their negotiation strategies. The latter aspect finally encourages the expansion of irregular human settlements, so:

- a) The government actions (sometimes municipal) and the ordering of the urban layout, originates the invert of the protected areas and the disorder in the physical structure of the neighborhoods.
- b) The limitations of the Mexican economy and the critical tendencies of employment and income amplify the demands for low cost housing land and irregular, illegal, reaching spheres of the farming mid class.

In the third point, it is interesting to highlight that within the regularization process taking place in this settlement, as a first step, 30ha were desincorporated from the public service, the same that are occupied by the 'Hielo neighborhood. This was solicited by the former mayor. The objective was to ask for the change in the use of the land so they could incorporate the neighborhood into the urban development through its insertion into the Municipal Urban Development Plan of Huixquilucan, which in theory implied the introduction and provision of the municipal services to the neighborhood.

Notwithstanding, until today there have not been solutions to offer to the neighborhood. There are still two basic needs that require to be fulfilled: drinking water and drainage for the entire neighborhood.

The principal problems of the 'Hielo' neighborhood can be summarized as follows: the need of ensuring the installation and functioning of urban services; the delimitation and control of the size of the actual settlement, and the need to stop its growth. To face this, it is necessary to discuss hypothetical but possible solutions. This can only be achieved through an integral vision of the problem. One solution to the realization of the urban services, drainage for instance, is valued only if it conjugates the inhabitants' needs with the need to have the least environmental impact possible over the natural resources in its surroundings. The same can be said about the necessity to prevent the growth of the settlement that only can be faced trough the light of a coordination between planning and environmental policies, which are capable of bringing together the size and form of the settlement considering the environment and the surrounding territory.

To conclude, it is necessary to point out that the topic of the natural resources of the Huixquilucan municipality is essential in the light of metropolitan dynamics. Different

scale (local, metropolitan, even global) actors and processes are confronted, so the actors and local authorities play an important role in the negotiation and control of the territory, but they should not be alone in this preponderant task. The challenge is too big, and the legal competencies have to be combined so that the institutional weaknesses shown until now could be compensated. It is necessary to link the urban and environmental ordinances, because both incise directly over the territory.

The intervention in precarious settlements situated in zones with a high environmental value has a two-fold purpose: improving the living conditions and helping diminish the environmental discharges.

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