

The Preservation of Rural Heritage in the Peri-urban Context

Study of a Farm's Transformation
in the Canton of Fribourg



Énoncé théorique

The Preservation of Rural Heritage in the Peri-urban Context

Study of a Farm's Transformation
in the Canton of Fribourg

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Abstract

“Ecublens: la ferme de Bassenges sera démolie.”¹

“Vich: nouvelle cité-dortoir.”²

These two observations, further developed in the introduction, motivated me to find solutions for preserving the heritage of farms built on the French-speaking part of the Swiss Plateau while fostering a sense of community within the peri-urban context often described as “cités-dortoirs”. The core of the research focuses on proposals of transformations submitted by architects for a competition. The aim of the project of transformation was to propose new public spaces in an unexploited farm built in the 19th century in the center of Châbles, a village in Fribourg. By proposing to convert the farm into a building accommodating apartments, a nursery and an after-school care program, the town council aims to encourage social interactions between generations and to offer new public facilities to its population. The study and re-drawing of a selection of propositions showcase that heritage preservation was an opportunity to offer spaces dedicated to public uses rather than a constraint. Indeed, as the more delicate elements to preserve are the volume of the farm, its height, and its spatiality, common or public programs requiring large spaces are advantaged. The analysis of the specific cases highlights major principles of intervention, which, once categorised into specific architectural elements, will serve as a manual of intervention to apply to the transformation of farms in a general context.

Indeed, this “énoncé théorique” provides guidelines for transformations of farms, which aim to preserve heritage and propose public uses.



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¹ Misson, « Ecublens ». (Ecublens: The farm in Bassenges will be demolished.)

² Vivien, « Vich ». (Vich: new “cité-dortoir”)

Thanks

I would like to dedicate this page to everyone, who helped to shape my énoncé théorique.

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INTRODUCTION



Fig.1
Aerial picture
Grandson

Context

“Protégée, une ferme des Granges a été démolie sans autorisation.”³

Reacting on this situation, this research focuses on the future of farms built in the beginning of the 19th on the French-speaking part of the Swiss Plateau, an area which correspond to the green surface illustrated below.



Fig.2
Aerial picture
Lavigny

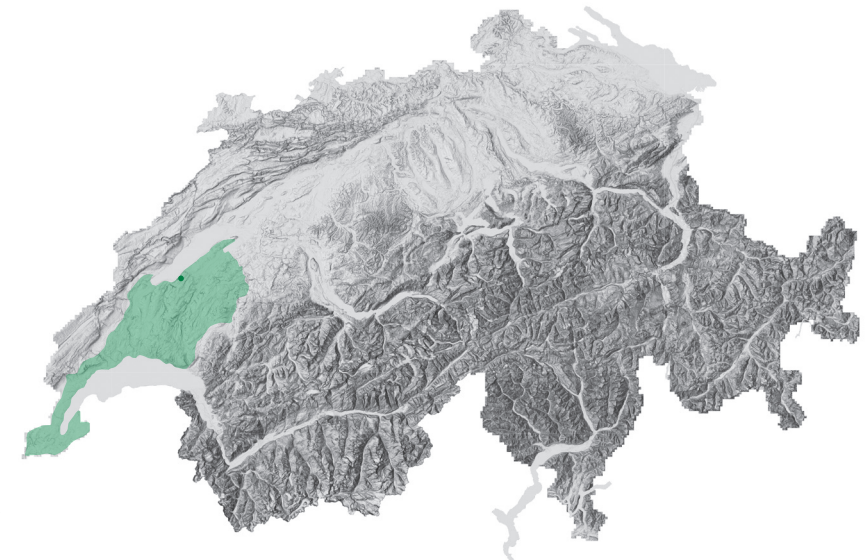


Fig.3
Studied area
and position of
the case study

This region is characterised by a vast plain area surrounded by both the Jura and the Alps. Originally covered by a glacier, the region's high fertility, mild climate and hilly topography provide extensive crop lands suitable for agricultural needs. Since centuries the region is devoted to agriculture and architectural elements such as farms, stables or barns dedicated to the culture of cereals and livestock farming strongly shape the territory and define the rural character of the landscape, as illustrated in figure 1 and 2.⁴

The current state of this rural architecture is depicted in the following chapters.

³ Ruffieux, « Protégée, une ferme des Granges a été démolie sans autorisation ». (Protected, a farm in Granges was demolished without authorization.)

⁴ Rey et al., Living periphery, 53.

Farms built in the 19th century today

Nowadays, the situation of farms built in the 19th century is shaped by successive developments in both agricultural practices and territorial dynamics occurring since the forties.

Since 1945, to respond to the increase of production, the amount of shed built around farms increased. Once, cramped for space in the centre of the village, farms were sold, and new industrial buildings constructed outside the village emerged. Detached from the regional characteristics, the industrial architecture provides efficient buildings and spaces which meet actual standards and production needs.⁵

Moreover, five years later, the rise of peri-urban individual houses threatened the rural landscape. On the Swiss Plateau, the urban spread, reaching a peak in the sixties under the impetus of strong demographic growth and the widespread development of the car, strongly marks the territory.⁶ In search of improved living conditions such as larger homes and a quiet environment, household are successively moving from the city centre to the periphery.⁷ Alain Garnier, in the introduction of his book: “Les nouvelles cités-dortoirs” reports a relevant evolution of the number of single-family houses in Switzerland:

“17% of accommodations built in 1970 were individual compared with 42% in 1980.”⁸

Thus, Alain Garnier explains that before the establishment of regulations, the soil was freely negotiated and its price, soared to limits that no longer have anything to do with the yield value of agricultural soil, became inaccessible for farmers.

Nowadays, the use of the soil together with the settlement of single-family houses in the rural area are controlled by legislation. However, according to the OFS (Swiss Federal Statistical Office):

⁵ Glauser, Du Gros-de-Vaud à la Broye, 146.

⁶ Rey et al., Living periphery, 23.

⁷ Garnier, Les nouvelles cités dortoirs, 66.

⁸ Garnier, 10. Translated from French to English by the author.

“agricultural areas in Switzerland decreased from 42% in 1985 to 35% of the total land area in 2018. (...) On the Plateau, this decrease is primarily due to the expansion of housing and infrastructure. Indeed, around 90% of all newly urbanized land is settled on former agricultural land.”⁹ “Thus, almost 60% of housing facilities are single-family houses.”¹⁰

The development of Echallens, from 1946 to 2019 illustrates the expansion of urbanized areas and the emergence of new districts on agricultural land.



Fig.4
Echallens, VD
1946



Fig.5
Echallens, VD
2019

⁹ ARE, « Disparition des surfaces agricoles ». Translated from French to English by the author.

¹⁰ OFS, « Karte ». Translated from French to English by the author.

Indeed, since the sixties and continuing into the present era, the peri-urban phenomenon together with the continuous multiplication of houses encroaches on crop lands and divides plots, rendering them less efficient for agricultural purposes.¹¹ While crop lands near the farms built in the 19th century are bought for housing purposes, the production spaces need to leave the centre of the village to find available land.

Related to this territorial evolution and the changes in the agricultural economy, at the end of the 20th century, 33 '000 farms built in the 19th century stopped their activity.¹²

As a result, an important part of the rural heritage is threatened: under-occupied or abandoned, farms may disappear from the landscape if any uses are affected to them.¹³

The following cases illustrate a recurrent situation in the Swiss plateau.

In 2022 in Ecublens, the town council has withdrawn the objections to the construction of new apartments, which involves the demolition of a farm dating from 1799 and listed as an object requiring heritage preservation. The authority affirms to regret the impossibility to preserve the farm but confirms that the project complies with the land-use plan.

In 2016 in Bulle, objections, petitions and a lot of efforts from the opponents didn't convince the city council to refuse the construction of buildings, which implied the demolition of a farm.

As a result: the farm was demolished to make way for a real estate project consisting of five buildings.

As illustrated, farms are frequently threatened to be replaced by new constructions. Thus, depending on the city council, oppositions and heritage regulations don't always stand a chance for their preservation against land-use plans.

¹¹ Garnier, *Les nouvelles cités d'ortoirs*, 45.

¹² Jaquerod et al., *Vers une nouvelle forme d'habitat*, 3.

¹³ Jaquerod et al., 3.

"Demolition de la ferme de Bassenges"



Fig.6
"Ferme de Bassenges" in Ecublens

"Demolition de la ferme de la Toula"



Fig.7
"Ferme de la Toula" in Bulle

Villages of the 19th century today

As illustrated above, the peri-urban development has an impact on both agricultural practices and its architectural heritage. The following chapter focuses on the current state of villages, as a composition of rural buildings, which emerged in the 19th century and of residential peri-urban areas, built in the 20th century.

The development of these peri-urban districts mainly dedicated to housing strongly marks the emergence of the “cités-dortoirs”. The term defines an urban area essentially dedicated to housing where the majority of residents commute to work in the nearby major city and inhabit the districts during nighttime. Thus, the dispersion of the households in the peri-urban territory is generally accompanied by an insufficient amount of social, commercial, and cultural facilities.¹⁴ Therefore, as depicted below, the fear of becoming a “cité-dortoir” is actually a recurring concern for many villages of the region.

Chavornay veut échapper au destin du village dortoir

Le bourg du Nord vaudois gagne 100 habitants par an. Ayant longtemps eu mauvaise presse, il tente de se faire accueillant

Nyon risque à nouveau de devenir une ville dortoir

La rénovation de plus de 200 logements fait planer le risque que la ville perde des habitants aux revenus plus faibles.

Vich: nouvelle cité dortoir?

Fig.8-10
Headlines

Alain Garnier, who wrote about the “cités-dortoirs” in the Gros-de-Vaud and in Switzerland, notices important problems of segregation between residents of the peri-urban districts and villagers. He observes that, settled in an unfamiliar rural environment, generally, residents keep their urban routines and behaviours without participating in the local dynamic of the village.¹⁵ For instance, the residents of the villas tend to frequent supermarkets rather than local shops.¹⁶ The same author identifies important problems of integration between the population:

“only 11% of the residents of the residential area consider that they have interactions with villagers.”¹⁷

In the tv program: “Il était une fois Cugy” published in 1978, an inhabitant of a residential district affirms:

“We’re isolated; it’s far. I don’t walk to the village.”¹⁸

These examples testify of a strong segregation between two groups, which have different socio-economic and cultural orientations. Despite living on the same territory, the populations struggles to create a cohesive community due to their different perspectives and to the spatial distinction of their living areas.¹⁹

As a result, nowadays, the continuous addition of peri-urban districts together with the unexploited farms have important consequences on the atmosphere in villages. The former unity and community promoted at the time when the village emerged is nuanced by the strong segregation and individualism emerging between the districts and their inhabitants.

Nowadays, the question of unexploited rural buildings is addressed by many architects. However, most of the projects are proposing apartments which contribute to the perpetuation of the “cités-dortoirs”.

¹⁵ Garnier, 28-29.

¹⁶ Garnier, 167.

¹⁷ Garnier, 166. Translated from French to English by the author.

¹⁸ Bardet, « Il était une fois Cugy ». Translated from French to English by the author.

¹⁹ Garnier, Les nouvelles cités dortoirs, 177.

¹⁴ Garnier, Les nouvelles cités dortoirs, 46.

Here is one example of a project which transforms a farm into an apartment. The project is designed by Simon Durand and was built in 2021 in Cottens, in the canton of Fribourg.

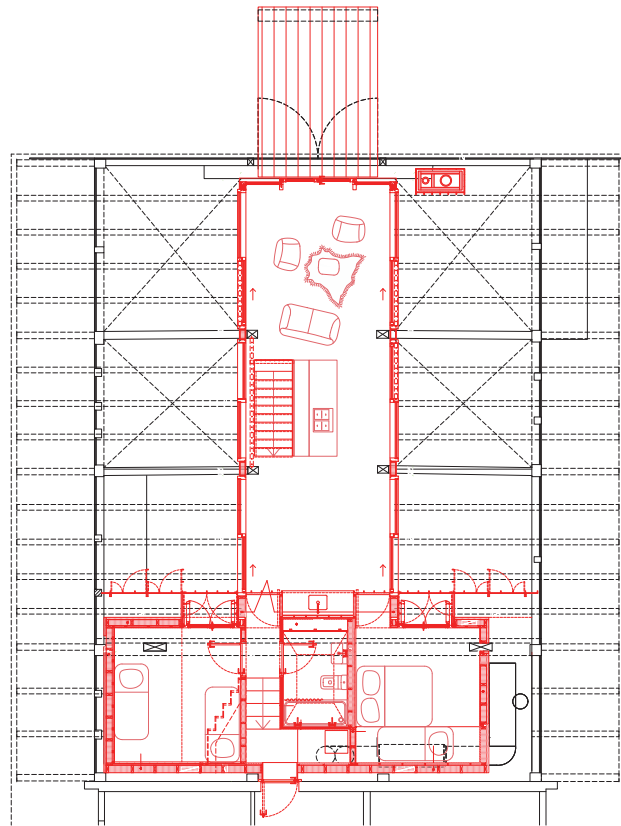


Fig.11
2nd Floor Plan

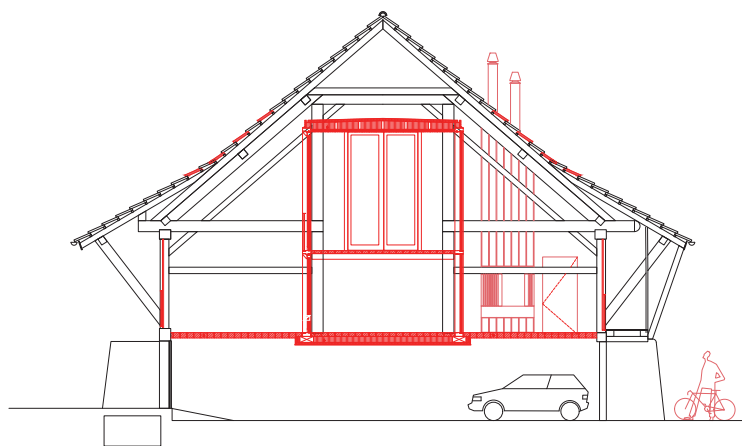


Fig.12
Section

Personal experiment and main question

As an inhabitant of a village which became almost attached to the city of Lausanne as I grew up, I have experienced the transformation from a village gathered into one area to the actual addition of independent districts. I felt that the village lost part of its qualities as a community during its transformation. Thus, its evolution led to the premises of a “cité-dortoir” which replaced the former dynamics of interactions. Indeed, due to the rapid multiplication of houses, it became rapidly impossible to get to know new inhabitants living in different districts.

This experiment, together with my interest for rural architecture, encourage me to study solutions to preserve our rural heritage and animate those buildings to recreate interaction between the core of villages and their residential areas.

This personal interest leads me to investigate; **how does a transformation of a farm protected by heritage introduces architectural elements which could create a sense of community within the “cités-dortoirs”?**

As interpreted in the book “Le patrimoine habité”, the research envisages the project of transformation as a chance:

“An opportunity to imbue the new program with exceptional qualities by integrating those observed in existing buildings. (...) The project of transformation is also an opportunity because it allows us to preserve and keep our built heritage alive without turning it into a mere memorial or another form of museumification. This is achieved by inhabiting it, by measuring our intervention in the quest for meaning, by finding the balance between the primacy of use and the primacy of traces from our past and experiencing the richness of the palimpsest.”²⁰

²⁰ Gueissaz, Steinmann, et Zurbuchen, Le patrimoine habité, 49. Translated from French to English by the author

Methodology

To tackle this question, the research focuses on the analysis of contemporary proposals of farm's transformations.

In order to select the case study, the following criteria are established. First, the existing structure is a construction designed for agricultural purposes, hosting both animals and humans. Then, considering the issues related to the “cités-dortoirs”, the project proposes communal or public facilities. Thus, the building is situated in the French-speaking part of the Swiss Plateau. Indeed, the study focuses on this precise area because it has its specific type of farm, (different from the ones in the Alps, for instance), which gets my attention and encourages me to study the architecture of the region where I live. Finally, the interventions selected for the case study are comparable between each other.

This last criterion leads me to choose a competition. Indeed, the unicity of the site as well as the homogeneity of the documentation enable a valid comparison of the different projects. Thus, it reveals contemporary ways of dealing with the existing. The information and the drawings concerning the case study are mainly collected from the data handed-in by participants for the competition. From the 60 proposals that were submitted, I chose 8 proposals that integrate public uses into the existing structure in various ways. Moreover, the available documentation for each project constrained the selection.

Before analysing the transformation proposals, a gradual succession of analysis of the site, from the village scale to the typology of the existing building, reveals the critical factors involved in the competition. Thus, the expectations of the town council, as contracting authority, set the programmatic and intentional context.

Then, the second part of the analysis provides an overview of farms constructed in the 18th and 19th century in the studied region. This cumulative analysis enables to identify the most distinctive elements which define the rural heritage. Moreover, the comparison between the wider context and the specific farm under study allows formulating hypotheses regarding its former uses. Thus, this overview highlights the specific elements of the type, which are protected by legislation

regarding the preservation of the rural heritage.

After establishing this intervention framework, both legislative and programmatic, the projects of transformation are consecutively drawn in plan, section and axonometric views to highlight the changes they imply on the existing architecture.

Then, to identify the element which could create a sense of community within the “cités-dortoirs”, the projects are categorised considering the climatic conditions of the spaces they offer for public uses. The non-exclusive categories of analysis are: insulated, tempered, covered and outside, illustrated by a range of green tones, from the darkest to the lightest. The intention is to identify the specificities of the elements which participate in the development of a sense of community within the “cités-dortoirs”.

First, the situation plan and the schematic drawing of accesses display how uses and users are organised within the plan. By graphically overlapping the hatches of each use, the plan highlights public and common spaces. The position of doors and stairs together with accesses showcase the degree of privacy and accessibility between rooms.

Then, the public spaces identified in the farm thanks to the situation plan are redrawn with its potential users both in winter and in summer. Finally, the transversal section displays the qualities of the common or public volumes and its possible uses.

By inventing and proposing potential uses, the aim of these “inhabited” drawings is to showcase the qualities of the public spaces which are offered within the farm. It is important to note that the term «Public» defines spaces which benefit the whole village, while common spaces are specifically designated for users of the program situated within the farm.

Finally, the synthesis studies the proposals regarding both the preservation of heritage and the establishment of public space. Gathered into groups of architectural elements (such as distribution, structure, facade, etc.) the classification of the specific projects of transformation creates guidelines to implement new public programs in any transformation of farms protected by heritage.

ANALYSIS



Fig.13
Farm in
Châbles, 2020

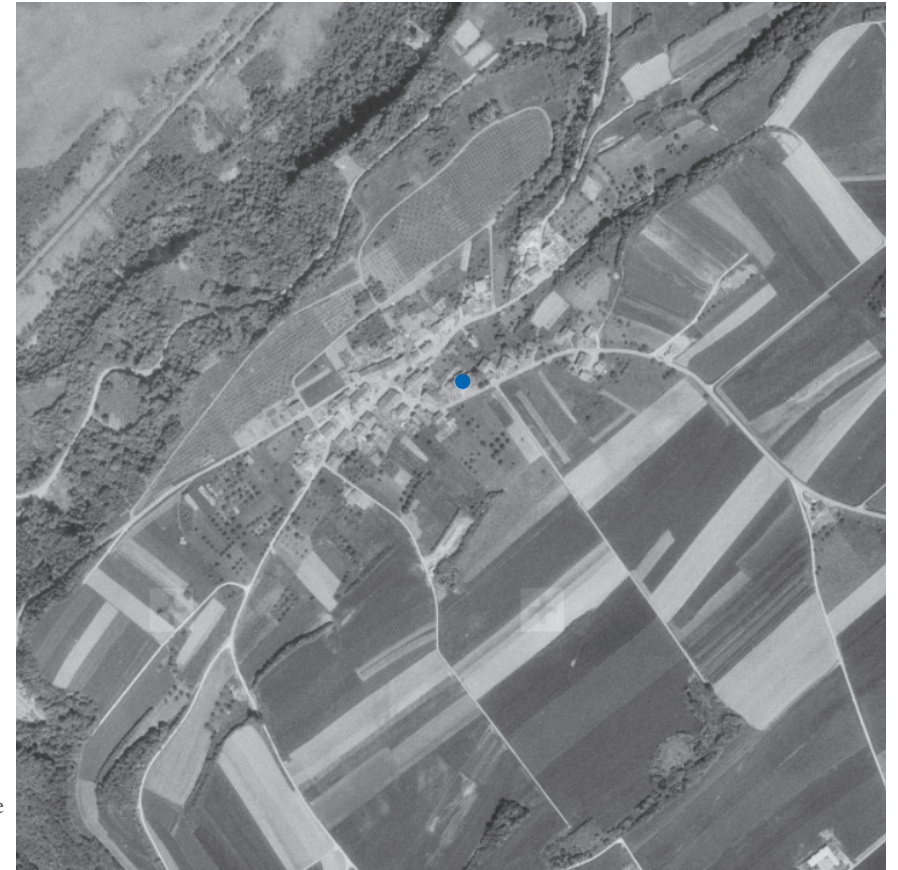


Fig.14
Châbles
1968

(with the
position of the
case study in
blue)

The case study selected for the analysis is a competition proposed in 2016 for the transformation of a farm in Châbles. Part of the Cheyres-Châbles municipality since 2017, the village is situated next to the lake of Neuchâtel. From a village of 300 inhabitants in the 1960s, the population increased to reach 700 inhabitants in 2017. This development was strongly influenced by the proximity of the village to the motorway (tunnel at the bottom right of figure 15).

As mentioned in the introduction, these images (fig.15 and 16) from 1998 and 2020 depict a representative scenario of the development and transformations taking place in villages on the Swiss Plateau. Indeed, due to the peri-urban development, individual houses emerged, forming a new district next to the core of the village (bottom left of figure 16). In 1968, 1998 and 2020, the territory is significantly shaped by agricultural practices, but, since 1998, farms locate their infrastructure outside the village core to gain more space to expand their number of buildings as production increases.



Fig.15
Châbles
1998



Fig.16
Châbles
2020



A closer look at the core of the village shows that houses (in red on figure 18) gradually encroach parts of the crop lands, while the system of roads and distribution is preserved. Between 1998 and 2020, the surrounding of the farm (in blue) evolved; toward the south, three houses emerged and created a new vis-à-vis with the farm. While, toward the north, the situation is stable and the position of the school (in purple) determined in 1900 and situated in front of the garden of the farm, is preserved.

The gable facades of the farm are facing the prevailing wind direction (southwest - northeast), while the main facade facing north opens to a large garden. Detached from the street, the position of the farm establishes a courtyard oriented toward the south (see details on figure 19).

The plot is surrounded by private properties, mainly houses with individual gardens.



Fig.17
Châbles
1998



Fig.18
Châbles
2020



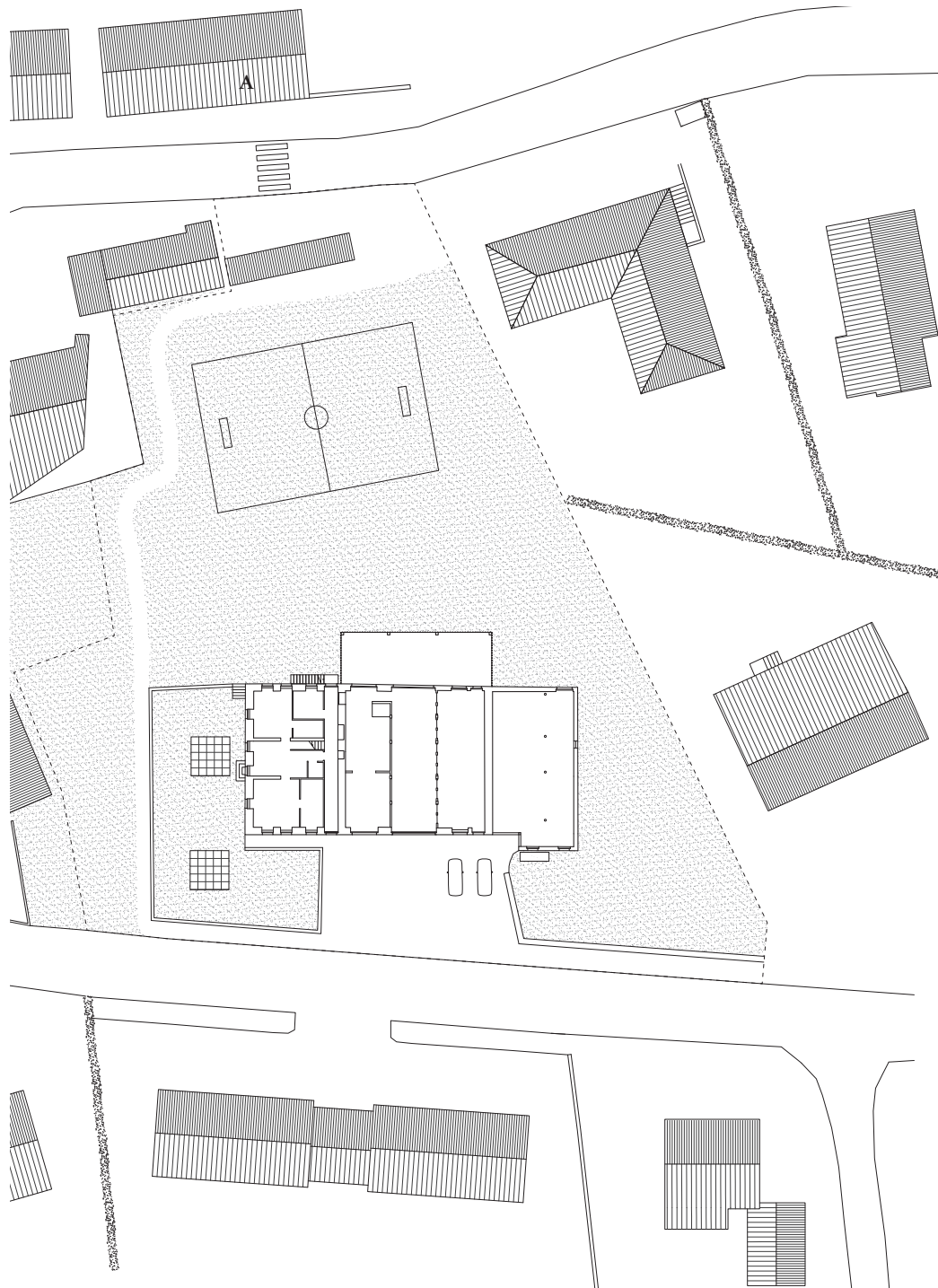


Fig.19
Site plan
A: position of
the school

According to the date engraved on the impost of the door, the farm was built in 1877. The building is listed as a heritage value property and, therefore, is placed under protection in the local development plan.

In 2016, as the farm wasn't used for agriculture anymore, the town council bought the farm and proposed a competition for a project which should host a nursery, a post-school childcare program, and some small apartments adapted for the elderly. The wish of the municipality concerning this project is to encourage interactions between generations and to use this plot situated in the centre of the village, next to the school, to propose a public space benefiting the whole community. Moreover, the project should create social synergies between spaces dedicated to the nursery and to the after-school childcare. The design, the architectural as well as the functional qualities of the project are the major criteria defined by the authority. Thus, related to the value of the farm in terms of heritage, the existing structure is protected, and the economy of means constitute the last criterion.

The following image depicts both the state of use and conservation of the farm before its transformation.



Fig.20
Farm before
transformation

Typologies of farms

As the specific typology of the studied farm is situated within a broader developmental context, the research provides a succinct overview of farms constructed in the 18th and 19th century in the French-speaking part of the Swiss Plateau. This cumulative analysis identifies the most distinctive and recurrent elements which define the rural heritage. Thus, the comparison between this wider context and the specific farm under study offers the possibility to develop hypotheses regarding its former uses, specificities, and future potentialities.

Historical evolution

Before the 18th century, the economic system relied on self-sufficiency. Exclusively based on cereal cultivation, agriculture was organised according to the three-year collective crop rotation system. As a result, farms were built on a single level (see fig.21).



Fig.21
Farm in Grand-Mont
1600

The evolution of the climatic conditions in the 18th century together with the movement of agricultural reforms in Europe led to the first agricultural revolution, occurring in the 18th century.

Consequently, the three-year collective crop rotation is abolished and new crops such as potatoes, corn, beetroot, and fodder plants are introduced.²¹ As explained by Daniel Glauser, from the middle of the 18th century, the economic system essentially based on self-sufficiency evolve toward a market-based economy.²²

Related to the improvement of efficiency of the production and to the new crops, architecture had to adapt. Indeed, in that period, a lot of farms were built, extended, or rebuilt to propose bigger volumes (see fig. 22-23). A new variant of the type is built on two levels with steeper roof's slopes. During the 18th century, this variant started to be frequently used and spread across the territory.²³



Fig.22
Farm in Granges-près-Marnand
1600



Fig.23
Farm in Belmont-sur-Yverdon
1556

²¹ Glauser, Du Gros-de-Vaud à la Broye, 105.

²² Glauser, 105.

²³ Glauser, 137.

The industrial revolution, in the middle of the 19th century, led to the industrialisation of agriculture and to the emergence of fertilizers. This period, corresponding to the golden age of agriculture, is strongly expressed through architecture. Indeed, new spans are added to accommodate machines and expand the existing farms to cope with the increase of its production. Thus, since the 19th century, emphasis has been placed on the aesthetic appearance of farms. Ornaments on the facade, such as arch lintels (see fig.24), not only showcase the owner's affluence but also highlight the dexterity of the artisan.²⁴

As Daniel Glauser notes, it is quite challenging to precisely define the main period of construction of farms, as we are actually confronted with examples mainly built in the 19th century or at the end of the 18th century. Indeed, earlier buildings were frequently susceptible to fires, demolitions, and successive transformations, making it difficult to provide an exact timeframe. However, he identifies a clear increase of the number of constructions in the 19th century, related to golden age of agriculture.²⁵

Nowadays, this farm of the golden age, is the remaining type which define the rural landscape (see fig. 25-27).²⁶



Fig.24
Barn's door in
Combremont-
le-Petit

²⁴ Glauser, Du Gros-de-Vaud à la Broye, 137.

²⁵ Glauser, Du Gros-de-Vaud à la Broye, 133.

²⁶ Glauser, 144.



Fig.25
Farm in Pomy
1855



Fig.26
Farm in
Thierrens
1816



Fig.27
Farm in
Yvonand
1806

Specificities

Today, in the studied region, heritage is depicted by a wide range of farms, mainly built in the end of the 18th century, beginning of the 19th century. Related to the materials available on the site, farms are generally built in masonry: the walls are made of stones while the coating is in lime mortar. Local stones such as molasse, sandstone or granite were used for both the frameworks and the base.²⁷ Before the 19th century the rural part of the farm was in wood but from the 19th onward, exclusively the carpentry and the inside structure are in wood.

The following images (fig.29-33) depicts the nature of these farms, which share a common vocabulary in terms of volume, materiality, and techniques of construction. Thus, similar elements on the facade are composed in a rich diversity of solutions. The main elements are: the arch opening of the barn, the small openings for the ventilation of the barn, the stone surrounds and wooden shutters of the windows of the dwelling, the stables doors and the specific surfaces on the upper parts of the gable facades.

Comprising these specific elements, the studied farm (fig.28) is clearly embedded within the architectural language and traditions of this context.



Fig.28
Farm in
Châbles
1877

²⁷ Gschwend, Bauernhäuser der Schweiz = Maisons rurales en Suisse = Case rurali in Svizzera, 130. Translated from French to English by the author.



Fig.29
Farm in Ogens
1801



Fig.30
Farm in Bioley-
Orjulaz
1844



Fig.31
Farm in
Essertes
built in 1838



Fig.32
Farm in
Payerne
19th century

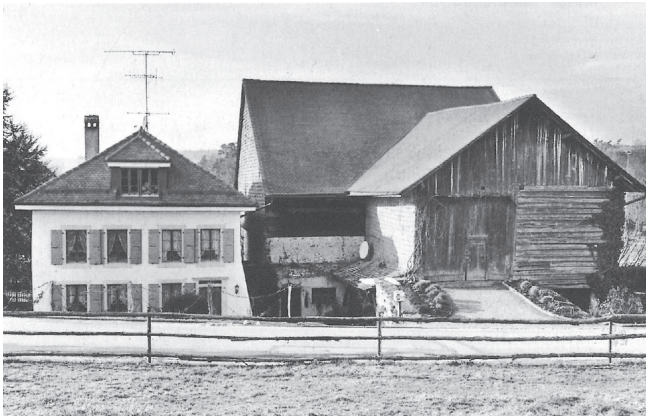


Fig.33
Farm in
Donneloye
19th century

As illustrated, three main types of farms can be identified and classified, related to the interactions between their housing and rural part. Charles Biermann uses the following main categories: “maison accolée”, “maison concentrée” and “maison dissociée.” The “maison accolée” is composed by two buildings, one for housing and one for production, built right next to each other (fig.33).²⁸ The “maison dissociée” consists of two buildings distant from each other in the territory (fig.32).²⁹ The specificity of the “maison concentrée” is that it reunites farmers, their livestock, their crops and tools under one single roof (fig 28-31).³⁰ As noticed by Daniel Glauser, 65% of the typologies in the studied region in the 19th century consist of this “maison concentrée”.³¹ The following drawings showcase the spatial organisation of this type.

²⁸ Biermann, *La maison paysanne vaudoise*, 149.

²⁹ Biermann, 154.

³⁰ Biermann, 151.

³¹ Glauser, *Du Gros-de-Vaud à la Broye*, 161.

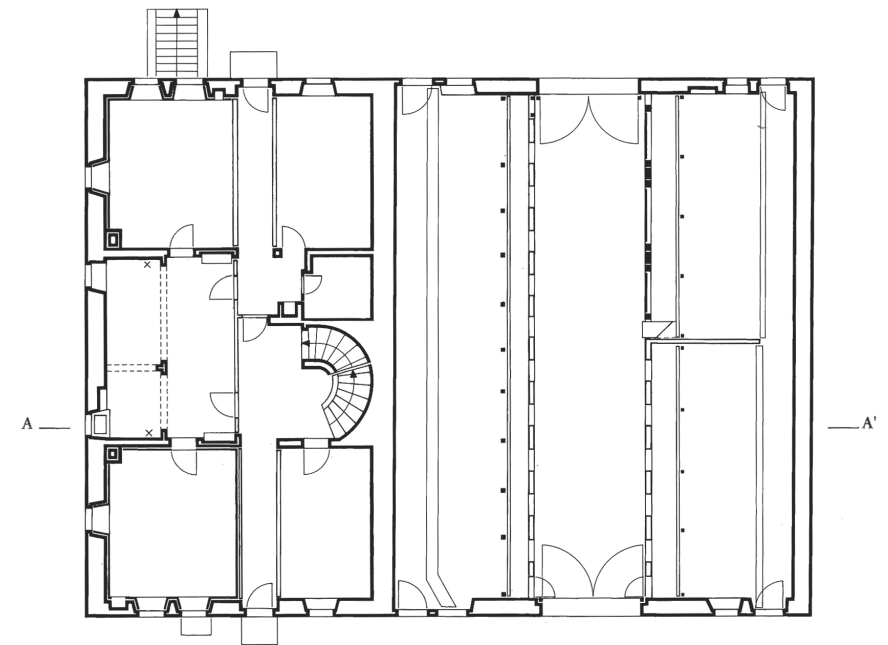
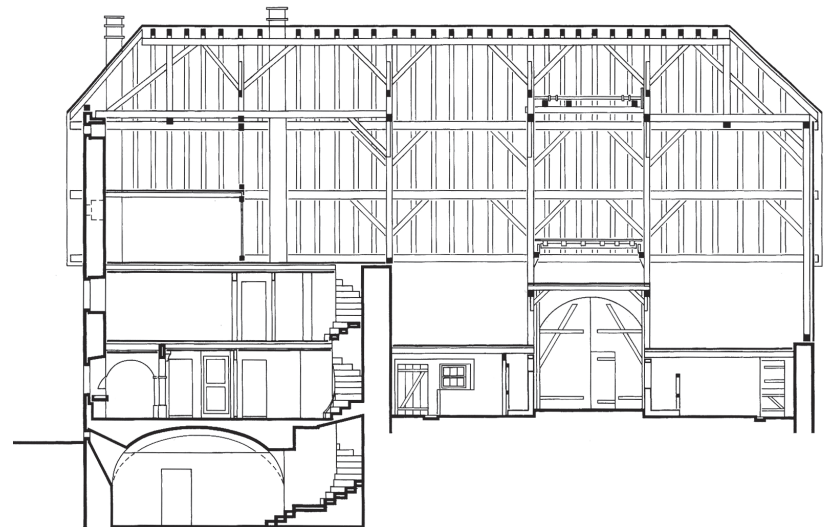


Fig.34
Farm in Pailly
1794



0 1 2 3 4 5m

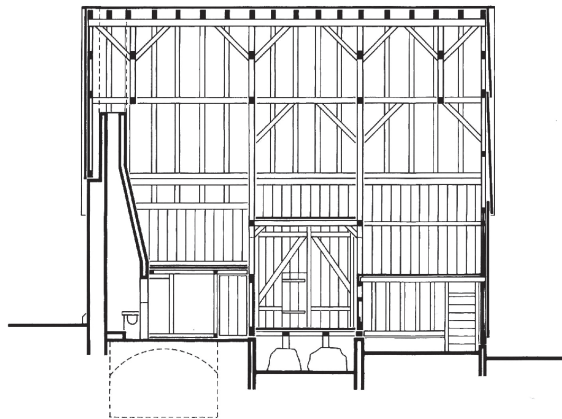
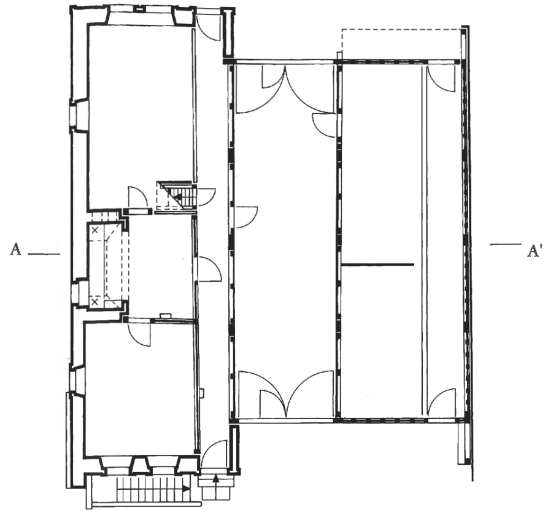


Fig.35
Farm in
Vucherens
1820

0 1 2 3 4 5m

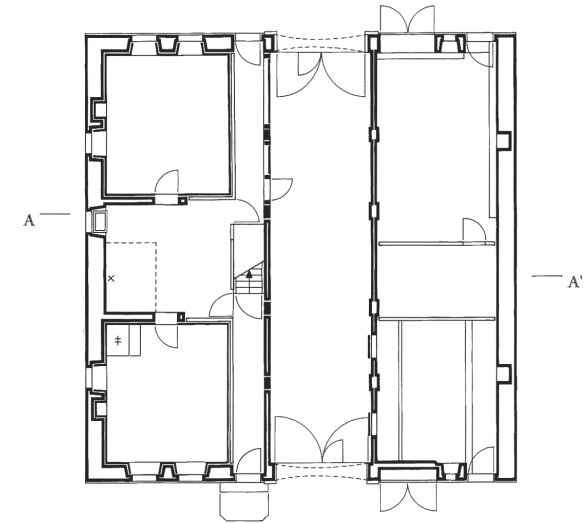


Fig.36
Farm in Rovray
1792

0 1 2 3 4 5m

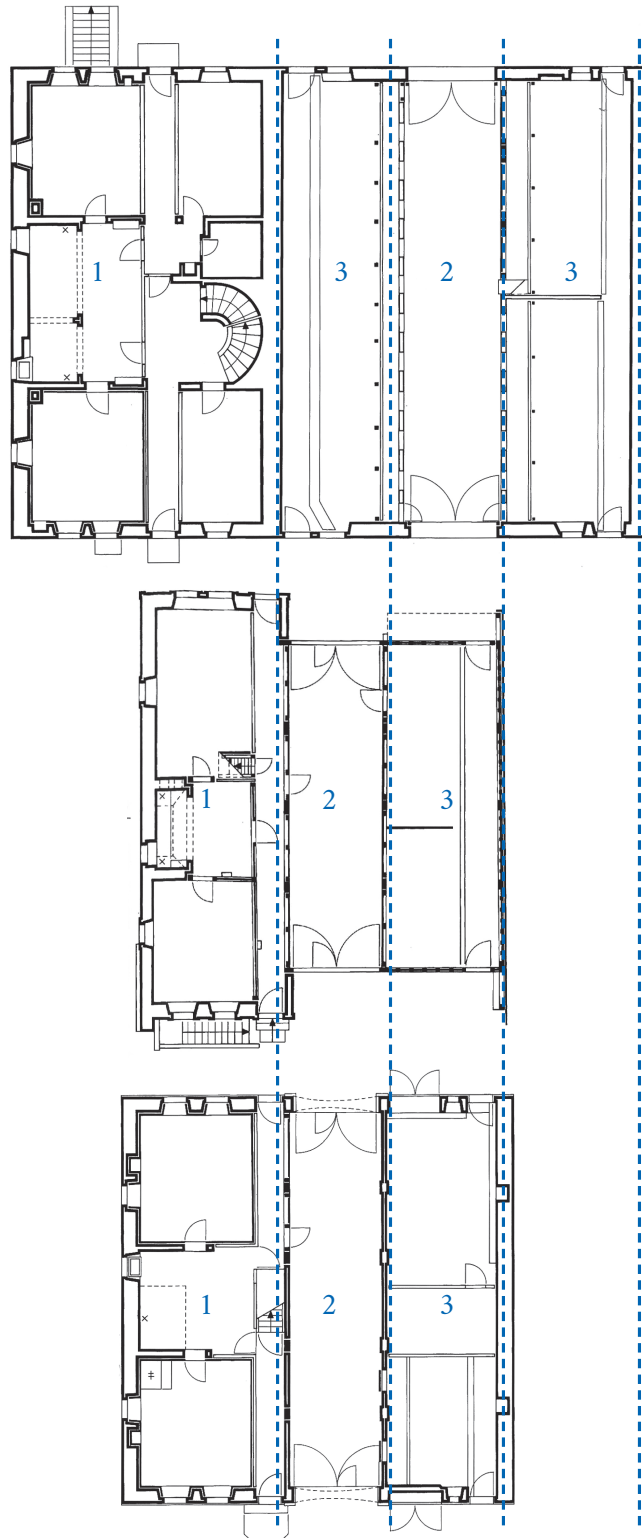


Fig.37
Ground floor
plans

As depicted, the transversal organisation of the plan, characteristic of the "maison concentrée", is the most recurrent layout.³² The research focuses on this type with a transversal organisation as it is actually the recurring type remaining nowadays on the territory. Thus it corresponds to the typology of the studied farm.

Defined by the successive addition of spans (dwelling (1), barn (2), stables (3), shed, etc.) (fig.37) this system allows each farm to vary in length based on its productivity.³³ Indeed, as explained in the historical development, the typology was designed to undergo changes in order to align with the evolution of agriculture and with the increase of production.

Classification

Regarding the extending nature of the typology, Daniel Glauser classifies the variants of the "maison-concentrée" with a transversal organisation related to their number of spans.

He supposes that the successive addition of spans addresses emerging needs related to the evolution of production and therefore there is not necessarily a chronological gap between bi-, tri-, quadri-, or multipartite farms. However, the most complex variant "multipartites" are often built as an evolution of a simpler variant "bipartites".³⁴

Rather than considering the evolution of the type essentially related to time, it is more relevant to favour agronomic and technical progress of each farm such as the rationalisation of production as a vector of changes influencing architecture.

³² Glauser, Du Gros-de-Vaud à la Broye, 161.

³³ Glauser, 161.

³⁴ Glauser, 161.

The categories are:

- “Bipartites”: small farms with two main spans: housing and production (including a barn and a stable)³⁵
- “Tripartites”: farms organised in three main spans: housing, barn and stable³⁶
- “Quadripartites”: farms organised in four main spans: housing, barn, stable and an additional span used as stable or shed³⁷
- “Multipartites”: farms organised in five main spans or more³⁸
- Undetermined: farms which lost their main structure during successive transformations³⁹

During his inventory, in the beginning of the 20th century, Daniel Glauser observed 1% of bipartites, 34% of tripartites, 40% of quadripartites, 10% of multipartites and 15% undetermined.⁴⁰

Charles Biermann describes this extension of the farm as a modification of the “primitive type” (corresponding to the tripartite variant):
“Gradually, as the farm gets higher, it becomes wider and longer. Buildings were added to the farmhouse, as needs arose and funds became available: sometimes a shed, sometimes a new cowshed with fodder, then a barn and yet another shed, each one bigger than the last. (...) to the left or right of the house; other rooms, attics and woodsheds also benefit from this and flank the barn on one or both sides. As a result, the primitive type is completely modified.”⁴¹

The schema (fig.38) showcase recurrences in the organisation of spaces. For instance, with its transversal corridor and its central kitchen flanked with 2 rooms, the layout of the housing part is repeated. Thus, the rural part is characterised by the successive addition of specific spans, mostly: stables, barn, shed and woodshed.

³⁵ Glauser, Histoire et avenir des fermes vaudoises, 162.

³⁶ Glauser, 163.

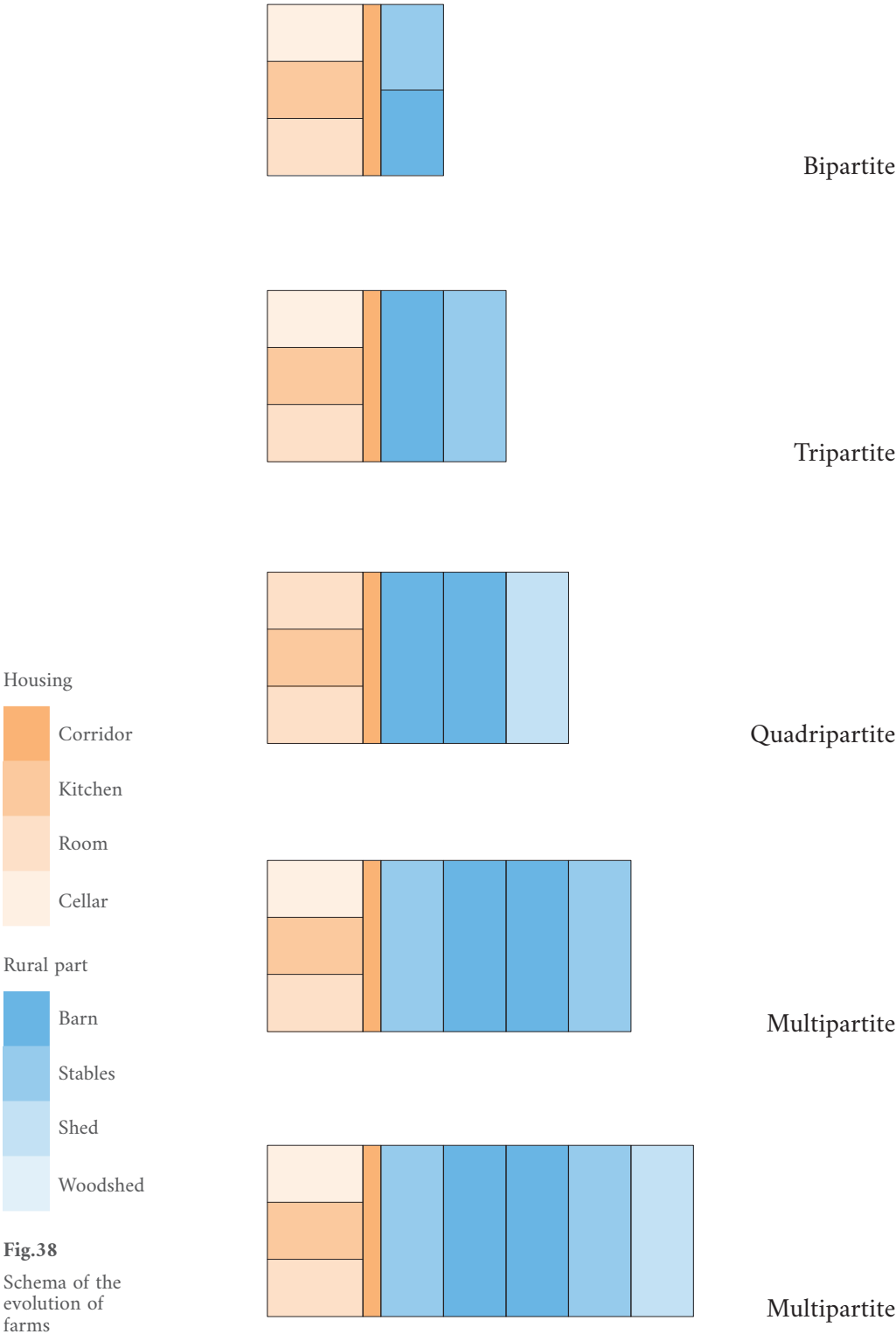
³⁷ Glauser et Glauser, Du Gros-de-Vaud à la Broye, 163.

³⁸ Glauser, 163-65.

³⁹ Glauser, 161.

⁴⁰ Glauser, 161.

⁴¹ Biermann, La maison paysanne vaudoise, 93-94. Translated from French to English by the author



This overview offers possible hypotheses on the construction of the studied farm built in “Châbles”. Indeed, the shed and the woodshed were probably added to the primitive construction, related to the systematics previously explained. The two rooms and the kitchen of the dwelling are divided into smaller spaces, maybe storage spaces or “bathrooms” (a).

This analysis, together with the following terminologies, gives the possibility to formulate main hypotheses concerning the former uses of the farm and to grasp the former way of living in this architecture. This understanding is crucial before starting to conceive or analyse a project of transformation.

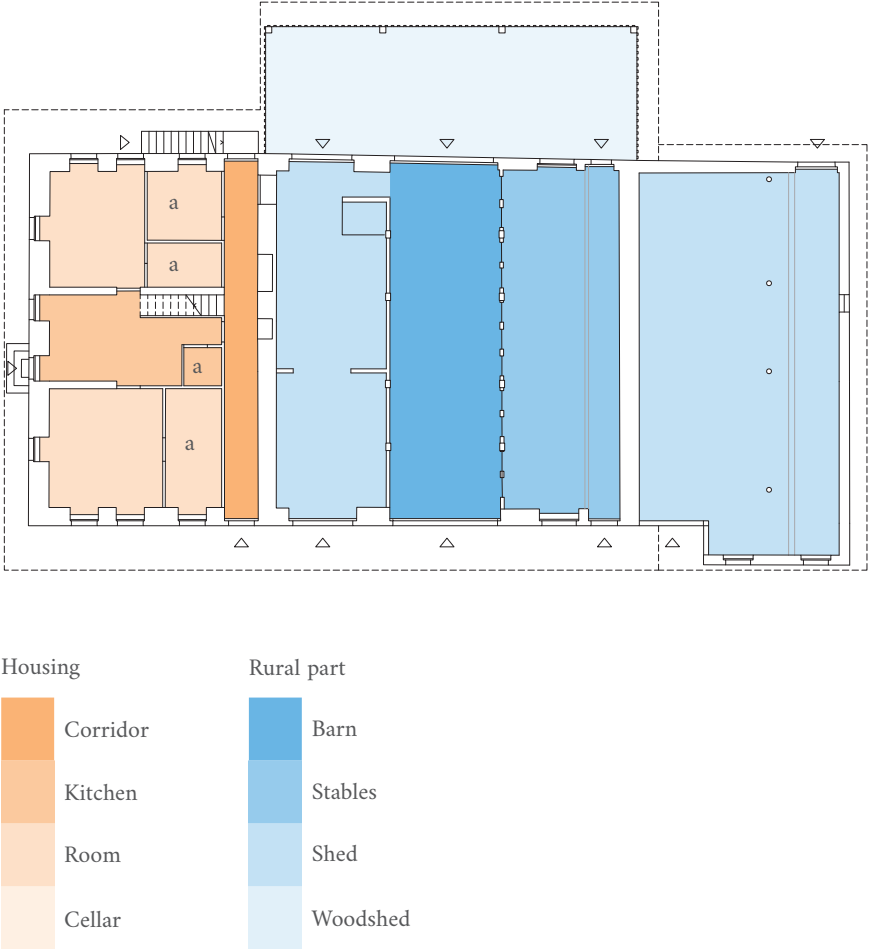
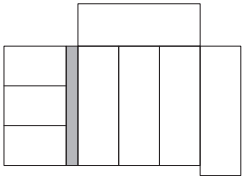


Fig.39
Groud floor
plan Châbles

Terminologies and spaces

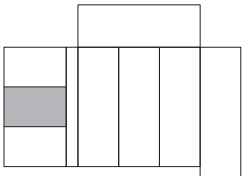
To illustrate the hypotheses regarding the potential uses of the studied farm, the research associates the plan of the farm in Châbles with texts and pictures of spaces collected in literature.



Corridor:
“The corridor runs through the house, providing additional insulation and separation between the dwelling and the production spaces.⁴²”



Fig.40
Entrances (to
the corridor) in
Pailly



Kitchen:
“Situated in the centre of the apartment, the kitchen forms the main focal point of the dwelling. (...) Its position is determined by the chimney, which rises to the highest point of the roof to ensure adequate draught. (...) It serves as the most important room, the room where most of the interior activity takes place. This is where meals are prepared and consumed, where the whole family, including the servants gathers, and becomes aware of its unity.⁴³”

⁴² Biermann, 98. Translated from French to English by the author
⁴³ Biermann, 98-100. Translated from French to English by the author



Fig.41
Kitchen in
Chavornay

Rooms:

"There are 2 rooms: the front room, facing the street in villages or eastward in independent houses, and the back bedroom. Both serve as bedrooms: one for the parents, the other for the children. (...) The front bedroom is also the living room, preferred during winter as it is equipped with a stove (...)."⁴⁴

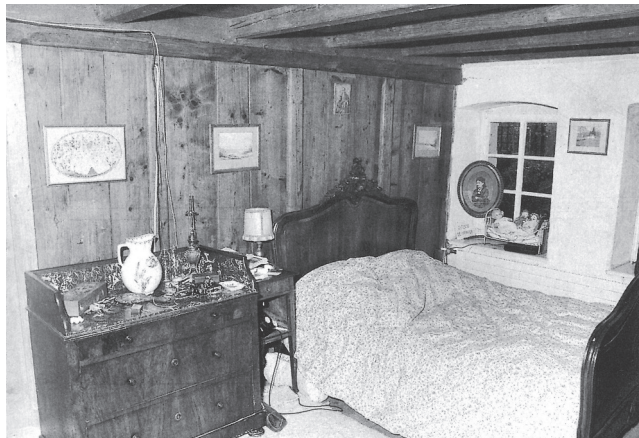
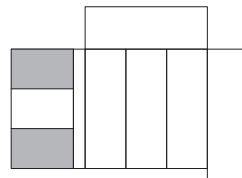
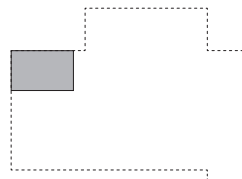


Fig.42
Room in
Vucherens

Cellar:

"The cellar is the space where household's provisions are stored: it is ubiquitous. Sometimes we have seen it on the ground floor, in houses built against the slope. Usually, it is in the basement, beneath a room or the entire dwelling."⁴⁵

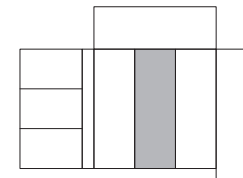


⁴⁴ Biemann, 100. Translated from French to English by the author

⁴⁵ Biemann, 108. Translated from French to English by the author



Fig.43
Cellar in
Bottens



Barn:

"(...) The space accessible through the monumental door of the barn is not a storage space, but a workshop, later transformed into a passage. It is the former threshing floor where the harvest used to be beaten with flails. Fifty years ago, the threshers, placed in a circle, struck the sheaves spread out on the floor with their instruments, following a rhythm that could be heard from a distance. (...) Since the practice of threshing with flails has been abandoned, this barn has become a hayloft. (...) The former threshing floor is now merely a passageway to the upper or lower parts of the barn. Nothing is stored there, at least not for a long period of time."⁴⁶

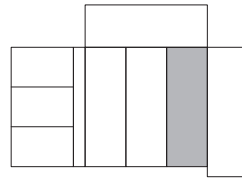


Fig.44
Barn's door in
Saint-Cierges

⁴⁶ Biemann, 121-23. Translated from French to English by the author

Stable:

“(Except in the case of the bipartite farms), *the stables, whether situated in the middle or at the end, span the entire width of the house. There are usually two doors, one at each end (...) The space is simultaneously low, dark and warm.*”⁴⁷”



Shed:

“*The shed is often the first element of the production part, situated between the dwelling and the barn. Its door replicates the same design as its neighbour (...) but is always lower and narrower since the vehicles passing through it are smaller and less laden. (...) In this case, the shed is directly connected to the apartment through a door. The farmer and his employee first pass through this room, to take their tools, before going out.*”⁴⁸”

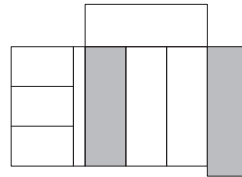


Fig.46
Woodshed in
Bussigny-sur-
Oron



Surroundings:

“*The farm isn’t situated immediately along the street but leaves a space in front of the construction for the temporary storage of machines and equipment*”⁵⁰.

“*Forming a sort of paved courtyard open at the front and bounded on the sides, this space allows doing various tasks.*”⁵¹”

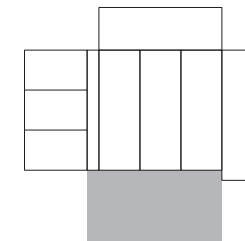


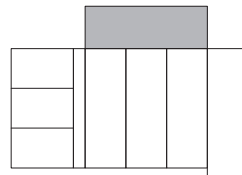
Fig.47
Courtyard in
Ferlens



Fig.45
Facade in
Yvonand

Woodshed:

“*This is a space which, when left open, facilitate the stacking of wood to feed the stove. The woodshed is often enclosed by a lattice, so that the wood can be left loose, allowing better air circulation, and drying. (...) The lattice, usually constructed with horizontal or vertical planks, may be the subject of special decorative attention.*”⁴⁹”



⁴⁷ Biermann, 109-10. Translated from French to English by the author

⁴⁸ Biermann, 139-40. Translated from French to English by the author

⁴⁹ Glauser, Du Gros-de-Vaud à la Broye, 173. Translated from French to English by the author

⁵⁰ Biermann, La maison paysanne vaudoise, 157. Translated from French to English by the author

⁵¹ Glauser, Du Gros-de-Vaud à la Broye, 279. Translated from French to English by the author

Norms regarding heritage preservation

This investigation shows the importance of specific aspects within the studied farm which are grounded in history, emphasising the need for their preservation as a testament to the past. Indeed, the recurring characteristics identified in the previous analysis are closely related with the conservation regulations.

First, as part of the “Zone de centre de village” (area of the centre of the village), the town council sets specific rules to control the aesthetic and expression of each new construction or transformations aiming to preserve both the nature and the image of the village.

Art.20. al 8.b: “Every transformation or reconstruction which alters the current condition will adhere to the volume, height, roof slope and facade materials of the existing structures.”⁵²

Art.20. al 8.e: “Roofs must have a pitch of between 60% and 100% (31° and 45°). Roofs shall have 2 or 4 traditional slopes; inverted slope roofs are prohibited. Attics should preferably be lit by windows opening onto the gable facades. Roof openings for attic lighting and ventilation must be limited to the strict minimum. Balconies built into the roof are prohibited.”⁵³

Art.20. al 8.f: “Metal roofs (iron, copper, aluminium, corrugated eternit, etc.) and plastic roofs are prohibited, except for thermal and photovoltaic solar panels and dormer windows. The colours of the facades and roofs of all buildings must be carefully chosen to ensure the unity and harmony of its architectural appearance and its integration into the site. Samples must be submitted to the Municipal Council for approval.”⁵⁴

Then, the farm, listed as an element of regional importance by the Confederation, gets a B-value according to the Canton’s evaluation.

Art.48: “(...) B = Good quality: a representative object or one that has been meticulously executed, preserving its original structure or essential elements. (...)”⁵⁵

⁵² Davet, Règlement communal d’urbanisme, p.21, translated from French to English

⁵³ Etat de Fribourg, Règlement d’exécution de la loi sur la protection des biens culturels, 22.

⁵⁴ Etat de Fribourg, 22.

⁵⁵ RSF 482.11 - Règlement d’exécution de la loi sur la protection des biens culturels - Etat de Fribourg - Recueil de la législation. Translated from French to English by the author.

This classification implies that demolitions are exceptionally accepted, new constructions are subject to specific requirements and that the following existing elements must be preserved:⁵⁶

- The outdoor amenities such as gardens (1) and squares (2) exhibit a strong connection to the historical uses of the farm. Given their role in shaping the building’s character, they are subject to preservation measures.

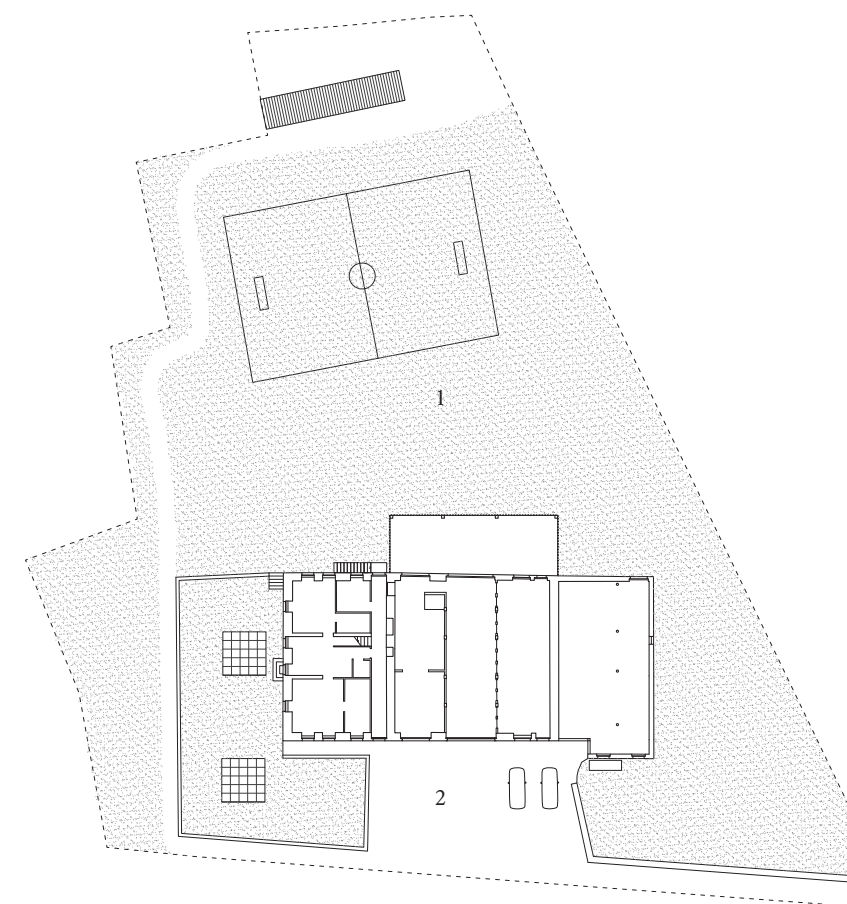


Fig.48

Site plan
(before
transformation,
Châbles)

⁵⁶ Service des biens culturels, « Mise sous protection des biens culturels immeubles ».

- The transversal organisation of the floor plan and the precise arrangement of designated spaces and functions. For instance, the position of the kitchen (3) or the one of the corridor (4) are both representative of the type and safeguarded accordingly.
- The components of the load bearing structure, including its massive walls made of stones and lightweight wooden carpentry are fundamental features, explicitly outlined in regulations.

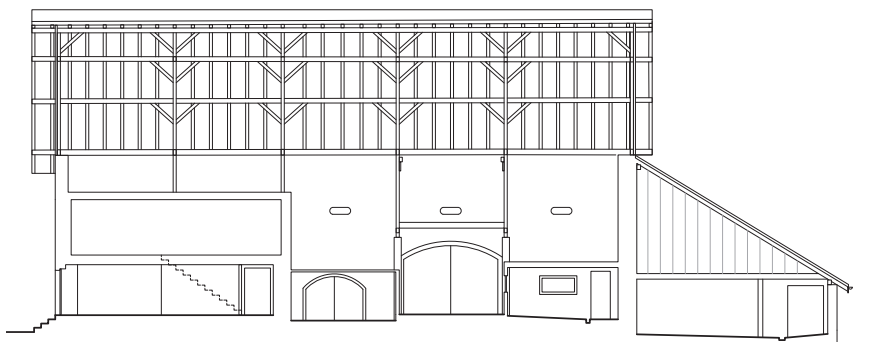
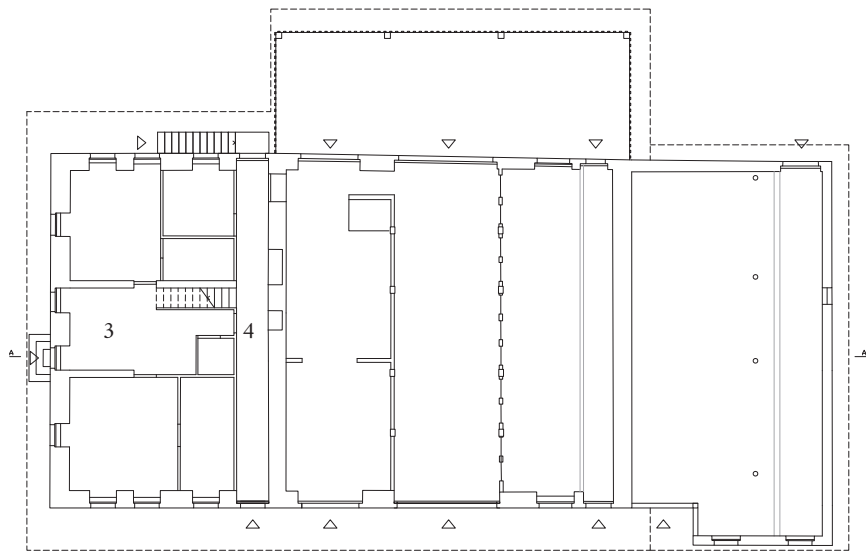


Fig.49
Ground
floor plan
and section
AA (before
transformation,
Châbles)

- The distinct ornaments on the facade, recurring motifs in farms built during the 19th century, are therefore protected.



Fig.50
Pictures of the
facade (after
transformation,
Châbles)

This legal framework applied to the farm considerably reduces the degree of freedom in terms of intervention but contributes to the preservation of the rural heritage.

This duality is explained in the book “le patrimoine habité” of Philippe Gueissaz:

“In addition, any transformation (...) of a building deemed worthy of protection must have a dual objective: to enable it to adapt to changes in human activity, without affecting (...) the characteristics that constitute its value.”⁵⁷

Indeed, designing a project within a structure steeped in a rich historical background and heritage proposes a significant challenge. The following case study suggests solutions to transform a farm to integrate new programs while preserving the specific elements which define its original construction and uses.

⁵⁷ Gueissaz, Steinmann, et Zurbuchen, Le patrimoine habité, 8. Translated from French to English by the author.

SYNTHESIS



Fig.51

Farm in
Châbles, 2023

Principles of intervention

While the farm is protected by heritage legislation aiming to preserve its characteristics, the building requires adaptations to satisfy new public uses.

Regarding heritage, architects of the competition repeatedly use the verbs “to highlight”, “to preserve” and “to minimize” when describing their interventions. More than a principle of intervention, these positions are persuasive arguments that could sway the municipality by advocating both the respect of legislation regarding heritage preservation and the conservation of the building in an economical way.

Concerning the new programs, the town council decided to propose small apartments for the elderly and students who want to stay in the village. Thus, the post-school childcare program and the nursery satisfy the current needs of the population. The aim of the juxtaposition of the two programs, public and private, is to encourage social interactions between generations and to use this plot situated in the centre of the village to propose a public space benefiting the whole community. The study of the propositions shows that, regarding the whole inhabited area of the farm, only 12% of the areas on average are dedicated to public uses. Thus, only two projects propose insulated public rooms, while most of the proposals offer either tempered or covered spaces. Indeed, the program published by the authority clearly defines the area for each use, while the public spaces seem to be considered a more optional, less defined program. This gives freedom to architects in term of surfaces and climate to accommodate public uses.

To study the solutions which adhere to preservation principles and establish various public spaces which could revive the “cités-dortoirs”, the proposals are organised according to architectural elements. This synthesis provides a manual of intervention that could apply to other projects of transformation which aims to preserve heritage and develop public spaces.

Outdoor amenities

The majority of the projects propose to preserve the vast garden and the courtyard on the roadside. These two amenities are characteristic of the former use of the farm and are therefore preserved. Moreover, the connection with the school is always carefully established, with paths or stairs crossing the garden. In terms of community, some propositions give a lot of attention to the creation of a public park benefiting the whole village. For instance, project 02 proposes a public park accessible to both children and the elderly. By replacing the former series of embankments and fences by a succession of terraces, the garden offers both meadows, playgrounds and places to sit (1). Moreover, the courtyard on the south (2), characteristic of the former use of the farm, is preserved and cars are situated next to it.

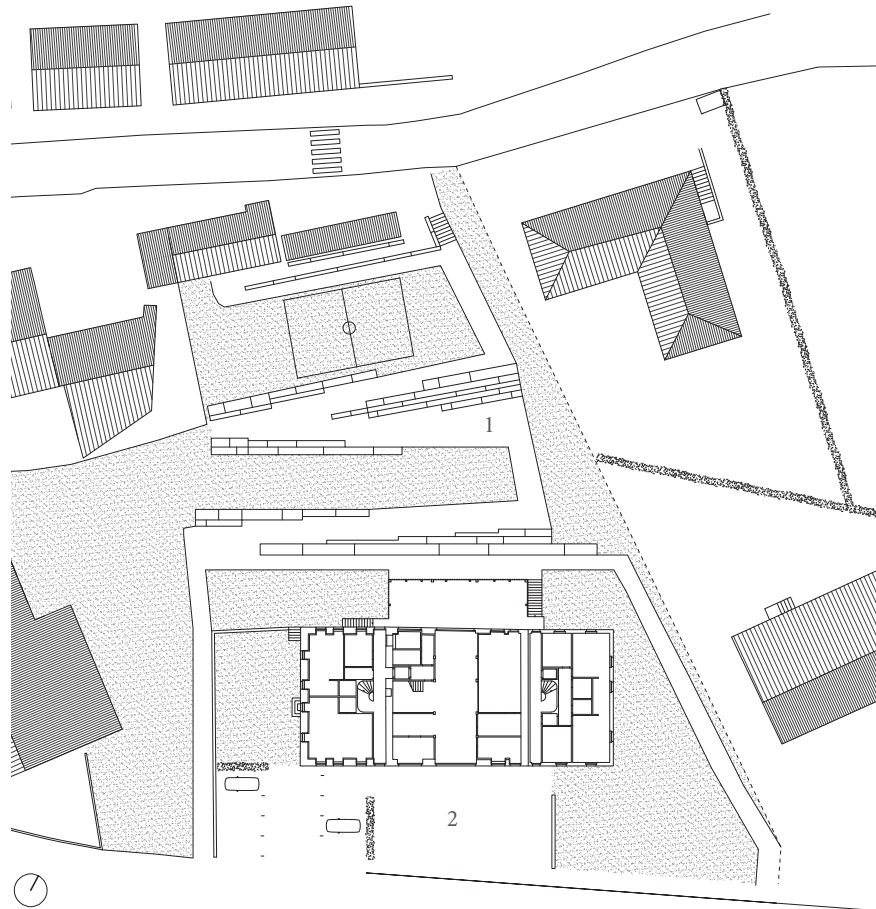


Fig.52
Site plan,
project 02

In other propositions, the parking spots required for the new programs often impact the quality of either the garden or the square by interrupting these spaces.

For instance, nowadays, the parking spots are built in the garden (3) rather than on the street side of the building (4) because rules regarding heritage preservation affirm that the use of the courtyard as a permanent parking will impact the south facade. While preserving the qualities of the courtyard along the south's facade, this decision reduces the area of the garden by replacing part of the grass with asphalt. Thus, it interrupts the continuity of the park leading from the farm to the school.

This example showcases a situation in which heritage preservation prevails over the qualities of the garden as public space.

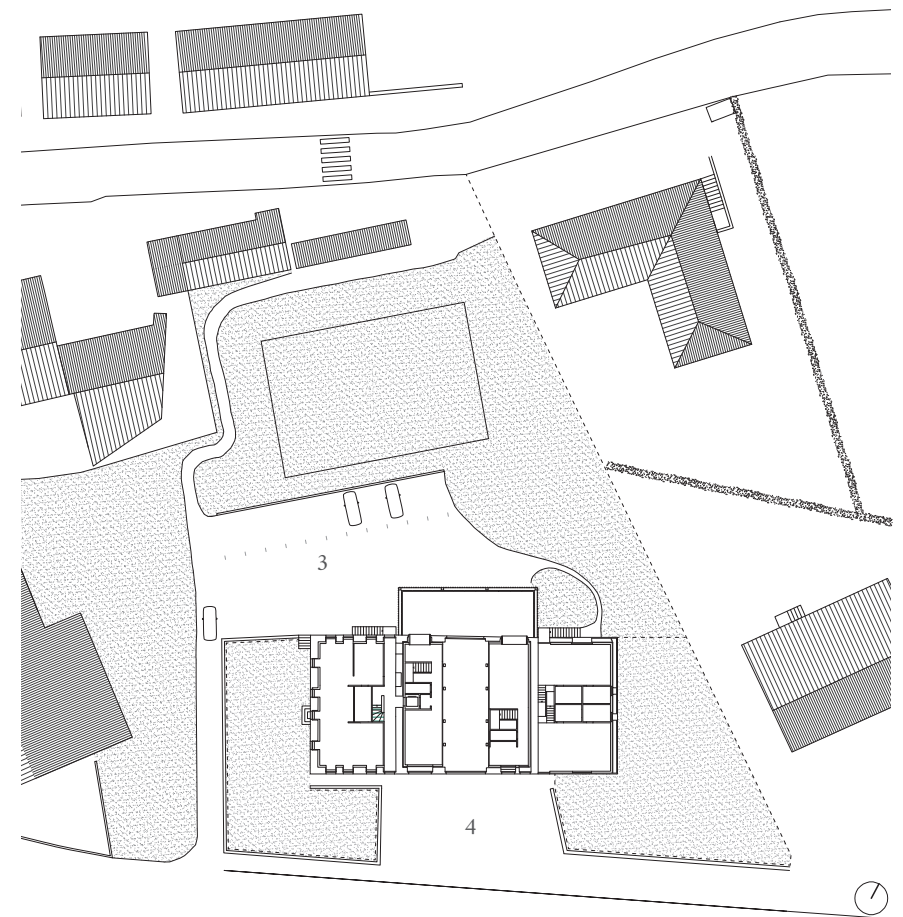


Fig.53
Current site
plan

Structure

Concerning the preservation of the former structure, one interesting position consists of filling the farm's volume with a system of insulated boxes built independently of the structure.

This system of boxes satisfies the two main principles of interventions pronounced by André Corboz. According to the historian of architecture, these two assumptions; "Principle of minimum intervention" and "Principle of reversibility of interventions" define a limit beyond which the preservation of the building's typology is affected.

A minimal intervention is defined as a modest act. This modesty shouldn't erase the former qualities of the building but rather lead to a moderate handling of the building that ensures the enhancement of the structure, the respect for its form, and the restoration of its typological integrity.⁵⁸ The principle of reversibility is carefully explained by André Corboz: *"We no longer feel entitled to impose an indelible mark on constructions that history has brought to us through the most perfect chance (...) We refuse to complicate the task for our successors, who will have to undo what we have done. (...) The ideal would be to place in a building only lightweight, removable devices with anchorages independent of the structure in which they are inserted (...)"*⁵⁹ The system of boxes is a kind of minimal intervention that is removable and doesn't affect the existing structure due to its independence.

Indeed, project 01 proposes to simplify the load transfer. As the new programs are built as freestanding elements ((a) fig54), the existing vertical structure of the barn exclusively carries the roof. This explanation applies to other propositions and allows preserving as much of the structure as possible. Thus, it diminishes the cost of the connections between the new and the old elements and allows the intervention to be reversible. By insulating only the boxes and not the existing roof, this solution facilitates the thermal and phonic insulation of new spaces, and reduces the cost of the intervention by limiting the insulated volumes.⁶⁰

⁵⁸ Zumthor, « Patrimoine et conservation de l'architecture », 81-82.

⁵⁹ Corboz, « Bâtiments anciens et fonctions actuelles: esquisse d'une approche de la "réanimation" », 994. Translated from French to English by the author.

⁶⁰ Jaquerod et al., Vers une nouvelle forme d'habitat, 20.



Fig.54

AA Sections,
project 01/06

— Existing structures — New constructions — Demolitions

This principle of freestanding boxes within the volume is advantageous for the community as it proposes flexible volumes which can adjust within the existing structure to cope with the village's evolving needs. For instance, without impacting the main structure of the building, the volume of the nursery can be adjusted, extended or demolished to accommodate other uses in a few years.

Philippe Gueissaz explains that the flexibility of this type is certainly facilitated by the large dimensions of the objects which are transformed. But the flexibility is also facilitated when the plan is conceived as *"a collection of enclosed and stable spaces arranged in an open and fluid environment, like houses and squares, where it is always possible to build or remove a house. The plan thus breathes in rhythm with changes in usage."*⁶¹

⁶¹ Gueissaz, Steinmann, et Zurbuchen, Le patrimoine habité, 48. Translated from French to English by the author

Distribution

One of the recurrent position to preserve the former layout and distribution of spaces in the farm consists of inserting the new functions in areas which are already adapted to them in terms of structure and form. Meaning that the functions adapt to forms.

This is related to a point raised by André Corboz. He wrote that the project of transformation reverses the famous Sullivan motto: “form follows function”. Indeed, for old buildings, it is the form which, through its structure and solidity, suggests the function it can accommodate without being profoundly altered: “function follows form.”⁶² Furthermore, according to Philippe Gueissaz, architects should benefit from the structural and spatial qualities of existing spaces when selecting the area that will best accommodate the new uses.

“It is about aligning needs with the qualities of the existing building. By working with the building rather than against it (...)”⁶³

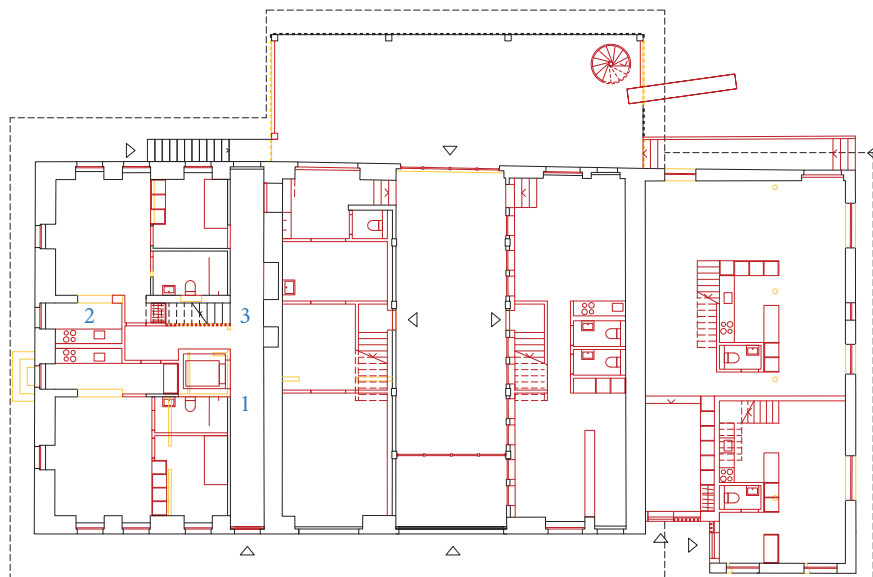


Fig.55

Ground floor
plan, project 06

— Existing structures — New constructions — Demolitions

⁶² Schroeter et al., Architecture du canton de Vaud 1975-2000, 368-69.

⁶³ Gueissaz, Steinmann, et Zurbuchen, Le patrimoine habité, 24. Translated from French to English by the author

For instance, considering this principle, the project number 6 and 5 (see fig.55 and 56), proposes to preserve the characteristic elements of the typology of the former dwelling such as: the corridor (1) which allows crossing the building transversely, the kitchen (2), and the central staircase (3).

Moreover, in the following proposition the housing part and the offices for the nursery occupies the former dwelling (A), which preserves its layout, while the public programs are situated in the former production part of the farm (B) (including stable (4), barn (5), sheds (6) and woodshed (7)). As a result, small rooms for the apartment and offices occupy the former dwelling, where the space is already subdivided, while large spaces required for children are located in the wide spaces, in the rural part of the farm.

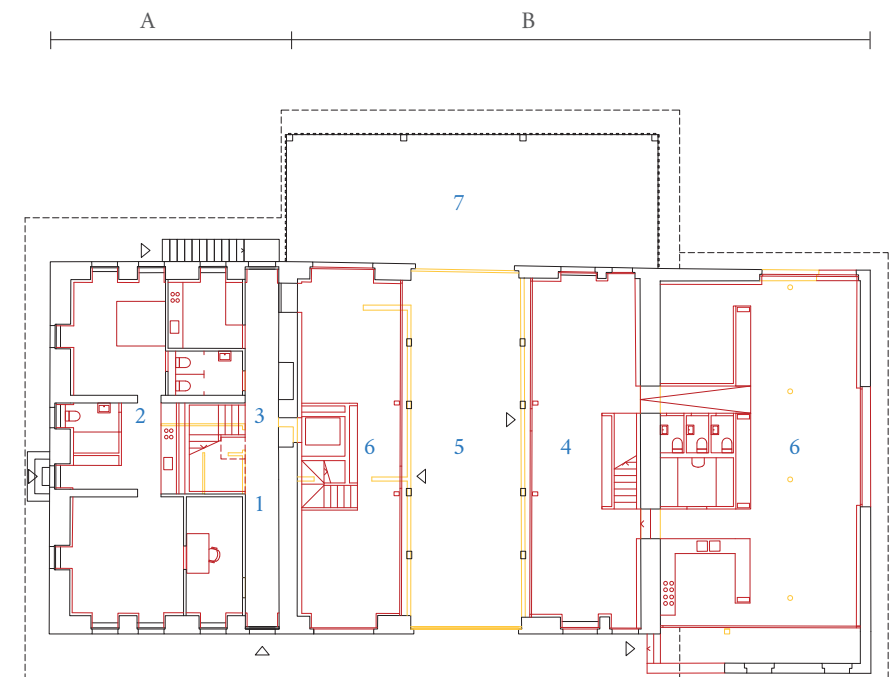


Fig.56

Ground floor
plan, project 05

— Existing structures — New constructions — Demolitions

Thus, while precise programs are defined in the stable and in the sheds, frequently, the barn's span and the woodshed are conceived as tempered buffer zones either open to public use or shared by children. Used as a passageway to feed the animals and unload the hay in the past, the barn's span is often preserved as a distribution space for the new programs. The conservation of its width contributes to the testimony of its former uses but also offers a large, tempered, or covered public space within the building. Used as a terrace, playground (1), storage space, etc. (fig.57) the barn's span comprises spaces which are lacking in new constructions.⁶⁴

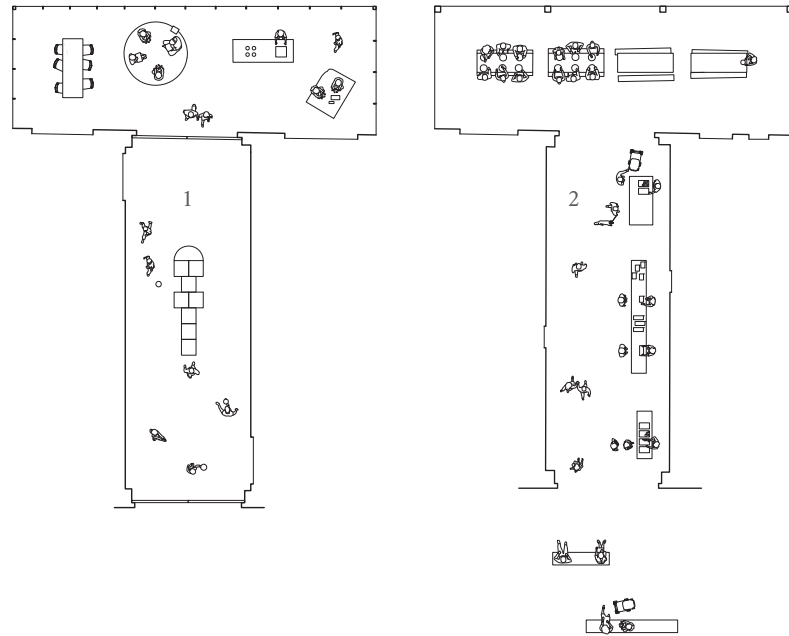


Fig.57
Plans: public
spaces, project
01 / 05

As a result, the new function of the barn's span as a distribution hall is similar to its former one but the dimensions it offers to the new programs can accommodate various common or even public programs such as: a playground, a market hall (2), a concert hall, etc.

⁶⁴ Jaquerod et al., Vers une nouvelle forme d'habitat, 18.

It is important to notice that the woodshed turns into a public space in all the studied propositions. This room, the only one, which is open on three facades towards the garden, presents a distinctive space that architects chose to make accessible to everyone. Transformed into an insulated, tempered, covered or even outside space, it hosts numerous public programs such as: a resting area (3), a playground (4), a sport area (5), a terrace (6) etc. (fig.58)

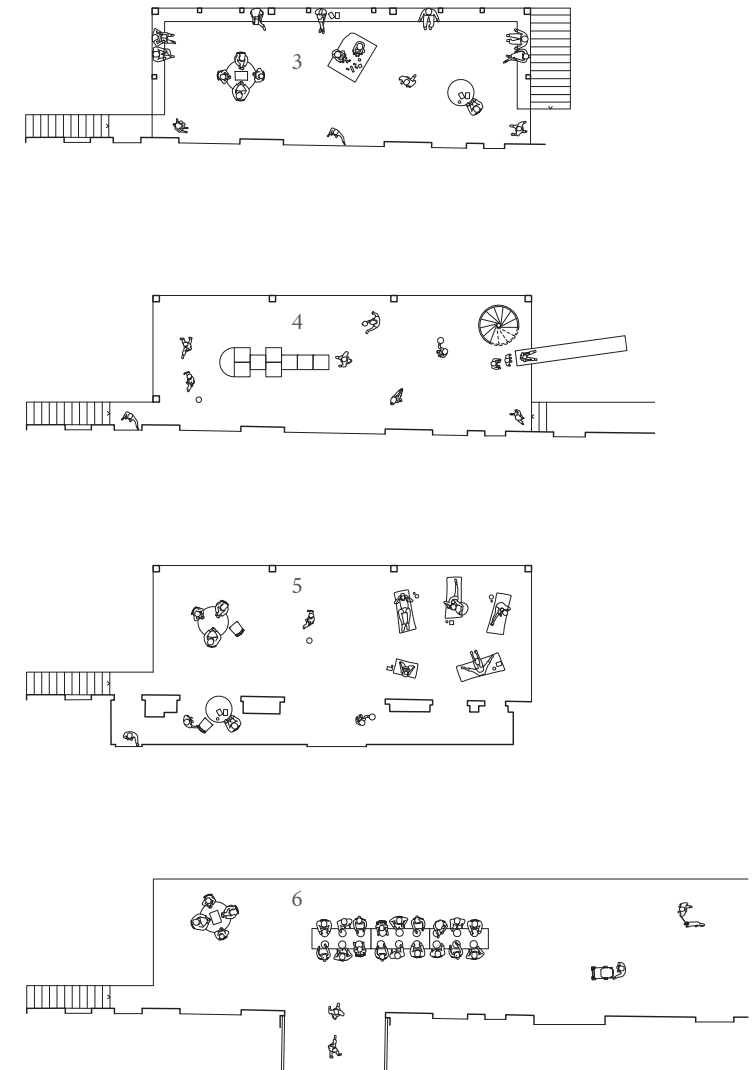


Fig.58
Plans: public
spaces, project
02 / 06 / 07
/ 08

The project number 3 proposes to extend the barn's span in the opposite direction in order to create a cruciform distribution space (fig.59). While the former transversal layout of the barn, described in the legislation regarding heritage preservation, isn't readable anymore, the new cruciform shape of the distribution space offers the possibility to organise public programs in two directions in a bigger space.

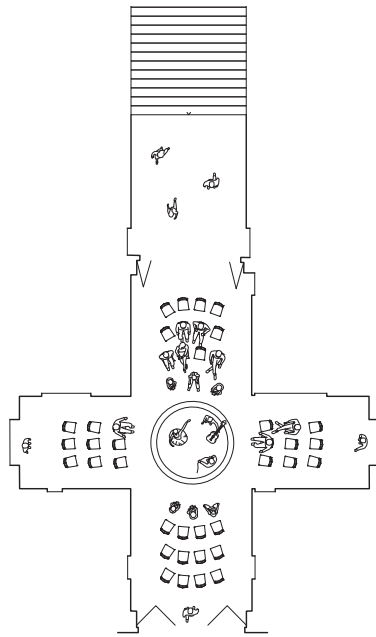


Fig.59
Plan: public
space, project
03

All these approaches show that the project of transformation should preserve and harness the qualities of what is already present, not exclusively to retain traces of the past but also, and above all, to uncover the potential of such spaces to evoke emotions and give the possibility to invent non-conventional ways of living.⁶⁵

Indeed, the specificity of spaces offered to the community due to the preservation of heritage can be used by different programs that need to be invented by their users.

⁶⁵ Gueissaz, Steinmann, et Zurbuchen, Le patrimoine habité, 39.

Space

The percentage of insulated rooms influences the preservation of the spatiality of the farm. Indeed, the Institute of Architecture "Transform" defines that a project with a percentage higher than 80% won't be able to meet the requirements related to the protection of the building's heritage while a percentage lower than 50% won't be able to satisfy economical imperatives.⁶⁶

The studied propositions mostly present a percentage around 70, which is under the limit set by the institute. However, three of the studied propositions slightly exceed the 80% which signifies that the projects fill the existing non-insulated spaces with a volume of insulated rooms which may harm the preservation and the expression of the building's spatiality. In fact, originally, only 16% of the volume of the farm was insulated. This corresponds to the volume of the dwelling, while the 84% remaining represents the part dedicated to production. The limit of 80% of insulated rooms to use for new programs is also related to the preservation of a part of the original non-insulated climate of the farm. Thus, providing tempered or covered spaces instead of insulated ones implies that the existing structure doesn't require insulation and is therefore preserved in its actual state.

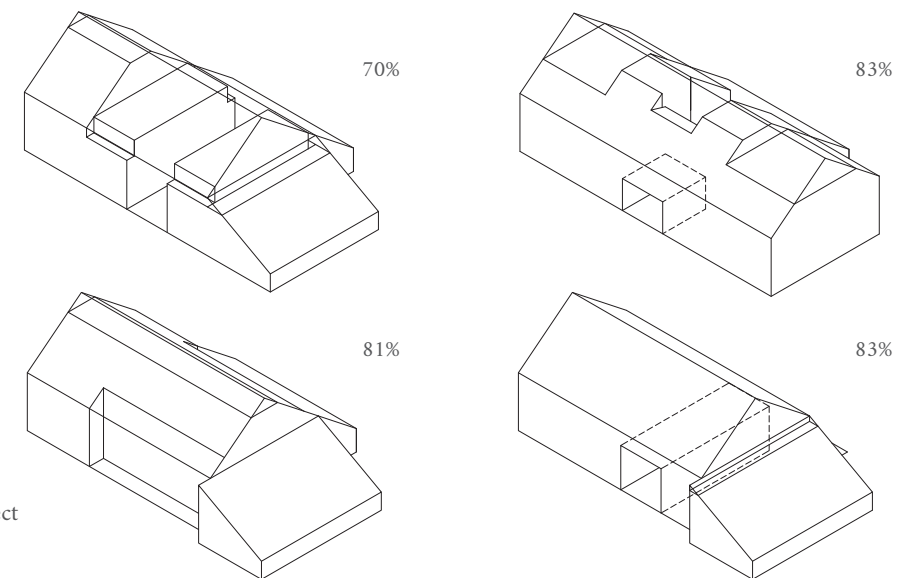


Fig.60
Insulated
volume, project
01 / 02 / 07
/ 08

⁶⁶ Jaquerod et al., Vers une nouvelle forme d'habitat, 26.

One of the recurrent positions toward the preservation of the farm's spatiality is to express the full height of the volume in the barn's span.

This position aligns with the opinion of Philippe Gueissaz, who considers that, in the case of buildings with large volumes, the aim is to demolish as few spaces as possible. Consequently, the division of these vast spaces shouldn't diminish the sense of the monumental dimensions inherent in farms' typologies.⁶⁷

As a result, showcasing the full height of the volume within one span of the farm illustrates the original purpose of the loft as a place to store hay.

The author of project 02 justifies the preservation of the barn's volume by explaining that the generosity of this space is an essential quality of the farm. Therefore, it is important not to proceed with abstract filling but to evoke the spirit of the place.⁶⁸ Mostly tempered in the studied propositions, the barn's span reveals both the monumentality and the refinement of the farm's carpentry, which doesn't require any insulation hiding or replacing the original materials.

As presented in the chapter dedicated to distribution, the barn's span often accommodates public uses. It means that the full height of the volume, often preserved in this area, is mainly offered to public uses (see fig.61).

The non-conventional height of the space gives the possibility to accommodate public events by offering the opportunity to create footbridges or slides, to hang swings, to install lamps for a show, to play with balls or trampolines, etc. (see fig.61) Such possibilities aren't conceivable in conventional buildings with 2.2 meters height ceilings. Moreover, the barn's span is often enlightened by natural light thanks to a series of punctual openings built into the roof. This natural enlightenment also contributes to the quality of the public space.

⁶⁷ Gueissaz, Steinmann, et Zurbuchen, *Le patrimoine habité*, 16.

⁶⁸ Pinon et Prisse, « - Concours ».

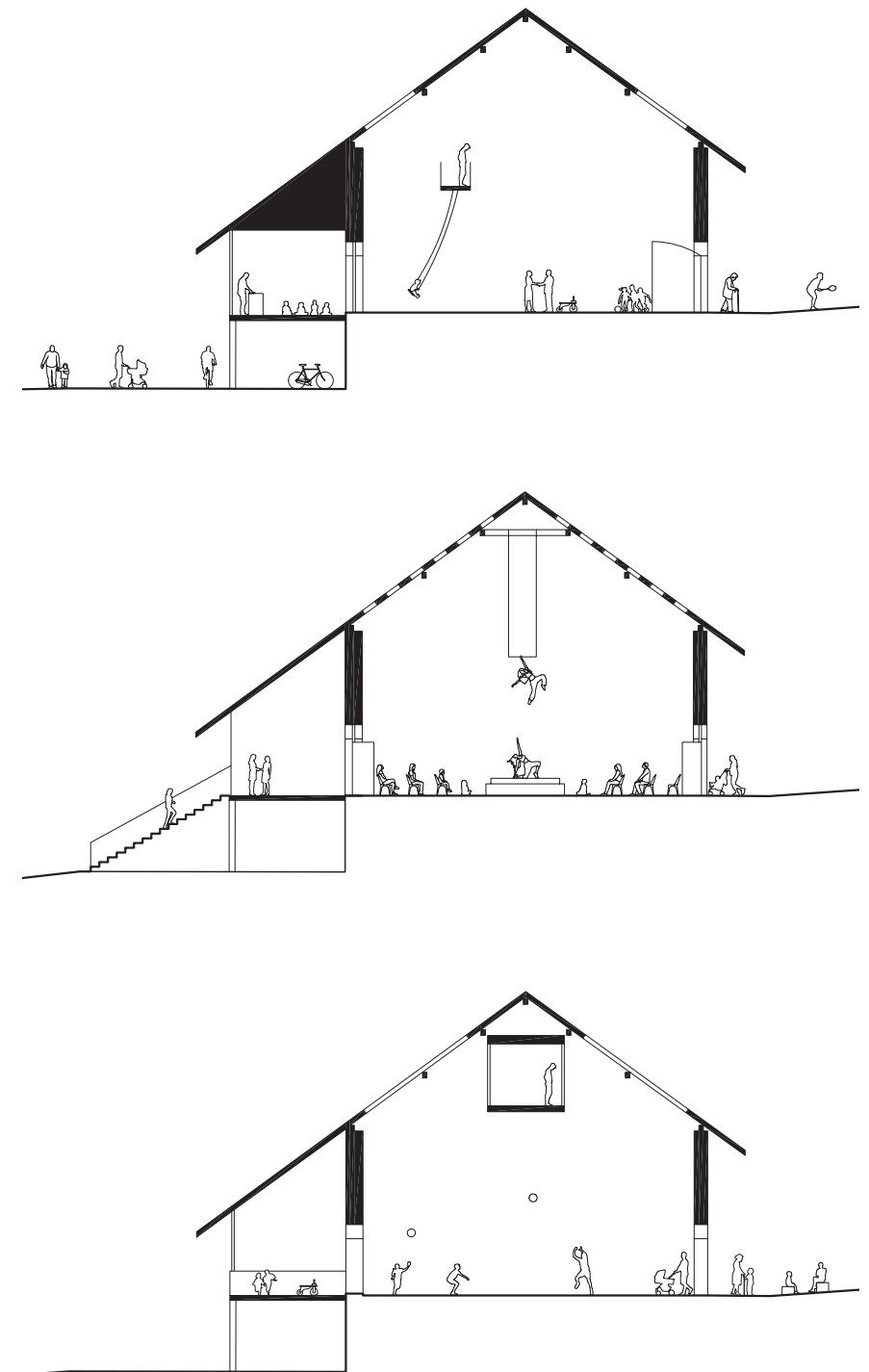


Fig.61
Sections:
public spaces
in the barn,
project
01 / 03 / 05

Materials

To preserve the specific materiality of the farm, architects frequently propose to separate the former elements, such as the wooden structure, brick pillars, masonry facades, etc., from the new ones to create a superposition where the materials from different periods complement each other.

This principle of intervention is shared by Bruno Marchand who notes that: “a successful transformation showcases the old and the new. It reveals that on one hand, there is respect for heritage, but at the same time, there is a contemporary and artistic expression.”⁶⁹ Indeed, according to him, as architects, “it is necessary to understand not only the existing and interpret its current significance, but also to ensure that the intervention leaves an imprint corresponding to our time.”⁷⁰

Thus, Philippe Gueissaz specifies that the contrast between the old and the new shouldn't monopolise attention to the detriment of the perception of what constitutes the unity of the building or space. Over-detailed and over-articulated materials that lead to the spectacular should be avoided, and the legibility of the intervention should be discreet, preserving the character and unity of the entire building.⁷¹

The question of the juxtaposition of materials arises in the propositions. For instance, the author of project 01 explains that the design of self-supporting prefabricated timber elements to accommodate the new programs ensures a clear distinction between the existing and the new elements, which enhance each other.⁷² Moreover, the author of project 05 proposes to separate the existing structure from the additional partitions in order to highlight the ancient materials and maximize their prominence.

⁶⁹ « Bruno Marchand: «Il faut préserver les particularités locales» - Le Temps ». Translated from French to English by the author

⁷⁰ Schroeter et al., *Architecture du canton de Vaud 1975-2000*, 372. Translated from French to English by the author

⁷¹ Gueissaz, Steinmann, et Zurbuchen, *Le patrimoine habité*, 45.

⁷² Fischer, « Planches du projet gajeta ».

The precise definition of the materiality of each proposal isn't always clearly explained by the architects. However, the wish to create a mechanical and aesthetic distinction between materials is distinctly expressed. This principle is evident in the central area (fig.62), where the new partitions do not impose themselves on the existing pillars but they preserve them and compose with them.



Fig.62
Ground floor
plans, project
01 / 05

— Existing structures — New constructions

The realisation (fig.63) shows a clear distinction in terms of both materiality and construction. The light wooden panels are physically and aesthetically separated from the former carpentry and pillars in bricks.

(The pillars couldn't be preserved; however, the new ones are similar to the original ones.)



Fig.63
Picture inside
the barn
(after the
transformation)

Strongly related to the principle of freestanding boxes, the juxtaposition of materials, independent of each other, gives the possibility to replace either an old or a new element for a different use without impacting the whole construction. It offers some flexibility to the spaces, either public or private.

Facade

The intention to highlight the existing is repeatedly affirmed by architects. This can be related to a sentence by Philippe Gueissaz:

"It is not about preserving an empty form, a shell, but about continuing to occupy it with contemporary needs, to keep it alive and enhance it."⁷³

This recurrent intention to highlight the existing building is strongly related to the image of the farm that each project wants to transmit through the expression of its facade. Attentively protected by heritage legislation, facades are subject to very few modifications: openings, ornaments, and the colorimetry of the elements of the facade must be maintained or reproduced to recreate or enhance the former aesthetic of the building. Thus, new openings are subject to negotiation.

We often hear that the preservation of the facade reduces the building to a museum at the expense of the qualities of space it should offer to its users. Indeed, as explained by Bernard Zumthor, to avoid a passive freezing of the existing or even an aesthetic plagiarism reducing the building to a wrapper, the restrictions related to heritage preservation have to be carefully studied.⁷⁴

In that sense, Oliver Fischer, the architect who transforms the studied farms, affirms that the preservation of the facade is always an interesting challenge rather than a limit for the project of transformation. According to him, dealing with the existing openings and depth of the typology is always stimulating. It encourages to invent new solutions to gain access to natural light and to find pleasant interactions with the outside.⁷⁵

This defiance of the preservation of the facades can be solved by the introduction of a new setback facade, independent of the existing one. This principle of intervention preserves the authenticity of the facades, their openings, and former doors such as the barn's doors.

⁷³ Gueissaz, Steinmann, et Zurbuchen, *Le patrimoine habité*, 32. Translated from French to English by the author

⁷⁴ Zumthor, « *Patrimoine et conservation de l'architecture* », 81.

⁷⁵ Fischer, *Transformation de la ferme communale de Châbles*.

For instance, to highlight the existing elements the author of project 07 proposes to work on the juxtaposition and superposition of the two facades or modes of construction (fig.64): one as heritage and testimony offered by the existing building, and the other as an envelope for the new uses.⁷⁶

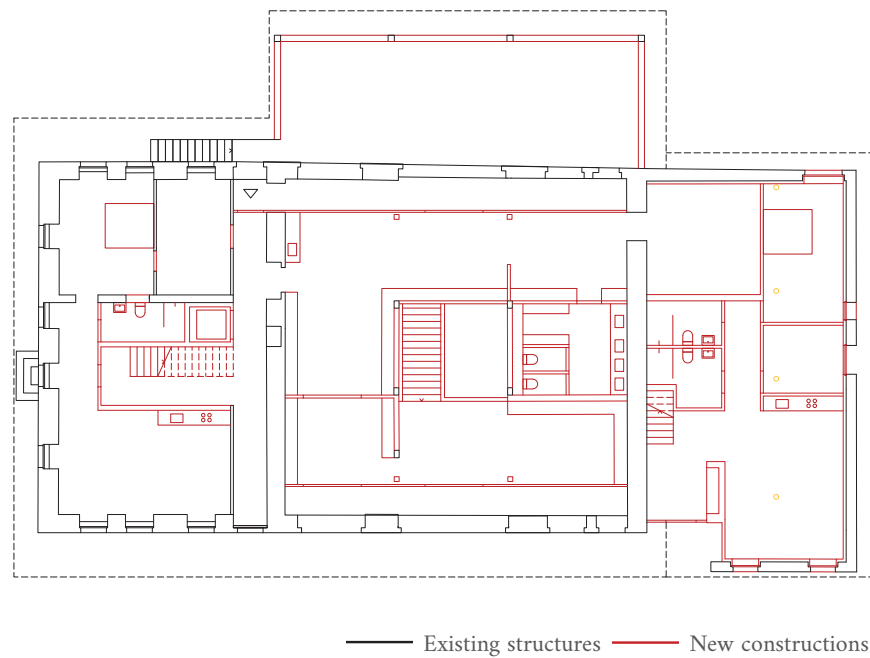


Fig.64
Ground floor
plan,
project 07

This system isn't recurrent in the propositions, however, the setback of the facade could create loggia or galleries, which accommodate either common or public uses.

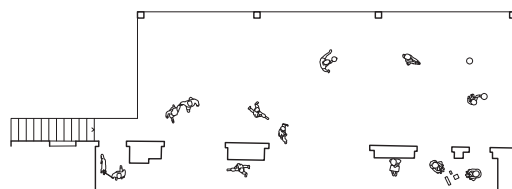


Fig.65
Plan: public
space, project
07

⁷⁶ Glocki, « Palimpseste ».

Finally, the realisation solved this challenge of the facade's preservation by bringing natural light into the non-insulated barn, with a system of glass tiles replacing parts of the former opaque tiles on the roof (fig. 66). Orientated toward the barn's span, the programs benefit from its luminosity. Moreover, the introduction of a new facade, detached from the existing one, optimises the intake of natural light through its diffusion in the space in between the 2 facades (fig.67). This technique reduces the size of the new openings required and gives the possibility to place them close to the roof, making them invisible from the street, as required by the legislation regarding heritage preservation (fig.68).



Fig.66
Barn (after
transformation)

Fig.67
Setback
facade (after
transformation)

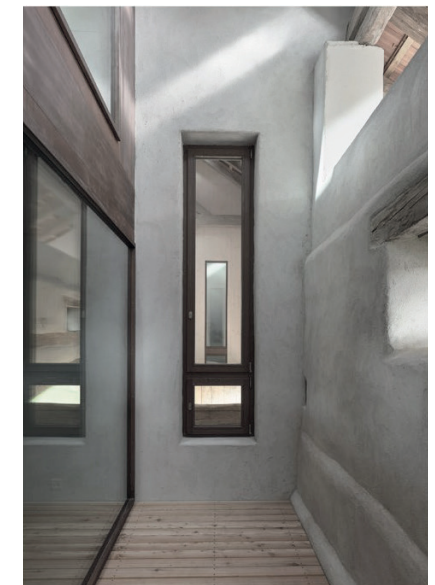


Fig.68
Facade (after
transformation)

Roof

Large roofs and eaves without openings are specificities of farms and therefore protected by heritage legislation, which affirm that roof's openings should be limited to the strict minimum.⁷⁷ But, due to the large width of the farm, the difficulty to create new openings in the facades and the opportunity to use attic spaces due to the non-conventional height of the farm, roof openings are currently used. Indeed, one of the recurrent solutions is to either create roof windows when the roof is insulated or to use punctual subtle glass roof tiles for tempered volumes. The solution of the glass tiles preserves the geometry, the slopes and the texture of the roof while bringing natural light to the new programs either public or private (see fig. 61). Thus, it is an economical means to improve the lighting coming from the facades while preserving their materiality.⁷⁸

⁷⁷ Etat de Fribourg, Règlement d'exécution de la loi sur la protection des biens culturels, 22. Translated from French to English

⁷⁸ Jaquerod et al., *Vers une nouvelle forme d'habitat*, 14.

Conclusion

The development of peri-urban houses leading to the creation of "cités-dortoirs" together with the recurrent abandonment of farms in the Swiss Plateau, encouraged me to study proposals of farm's transformation. The intention was to identify architectural elements which align with heritage regulations and foster a sense of community within the "cités-dortoirs". After establishing the context that drives the main question by analysing the actual state of villages built around the 19th century on the Swiss Plateau, the core of the research focused on a competition which proposed to transform a farm built in Fribourg into a building accommodating apartments, a nursery and an after-school care program. The analysis defined the area, the program of the competition, and the legislative framework related to the heritage preservation of the studied farm. This investigation established the context that shapes architect's proposals, which, once redrawn and analysed, provided solutions to the main question.

The study shows that two main principles of intervention offer the possibility to coordinate the preservation of heritage and the establishment of public spaces which, could liven up the "cités-dortoirs".

The first principle involves the construction of freestanding boxes, independent of the facades or of the existing structure. While preserving the existing architecture and materiality, this approach is economically advantageous as it reduces the cost of the connection between the old and the new materials and profitable for the community as it proposes flexible volumes that can adjust within the existing structure to cope with the village's evolving needs. Furthermore, the setback of the facade could create buffer zones accommodating either common or public uses.

The second principle, partially facilitated by the system of freestanding insulated boxes, consists of maintaining the barn's span as a tempered distribution space for the new programs. While the preservation of its original width, height, and materiality contributes to the testimony of its former use, its unconventional dimensions as a distribution space offer great potential for uses, which cannot easily be part of conventional contemporary dwellings.

This study shows that heritage preservation isn't an obstacle to the creation of public spaces, but rather an opportunity to offer spaces for public uses. Indeed, what is more delicate and challenging to preserve is the specific volume of the farm, its depth, its height and its spatiality. Consequently, common or public programs requiring large spaces correspond to heritage preservation's rules and therefore should be favored.

For instance, Oliver Fischer, who transforms the studied farm, concludes that the intention of the town council to create small apartments in the large volume of the rural part of the farm wasn't appropriate. It required a lot of intervention to bring light into small rooms, while the large volume could have accommodated bigger functions such as one large common or public room. In that sense, the public program of the nursery filled the volume in a good way.⁷⁹

Finally, the analysis of these specific proposals illustrates various intervention principles. Applied to specific elements such as structure, facade, distribution, etc., these principles serve as architectural guidelines for any transformations of farms which aim to preserve heritage and propose public uses. This "énoncé théorique" provides a manual that will support my "project de master", a project dealing with the transformation of a farm in the peri-urban context of the Swiss Plateau to revive the "cités-dortoirs".

⁷⁹ Fischer, Transformation de la ferme communale de Châbles.

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Fig. 13 and 28: Picture of the farm in Châbles, © Alain Wicht-archives

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