A Changing Cultural Landscape In the Middle Upper Inn Valley

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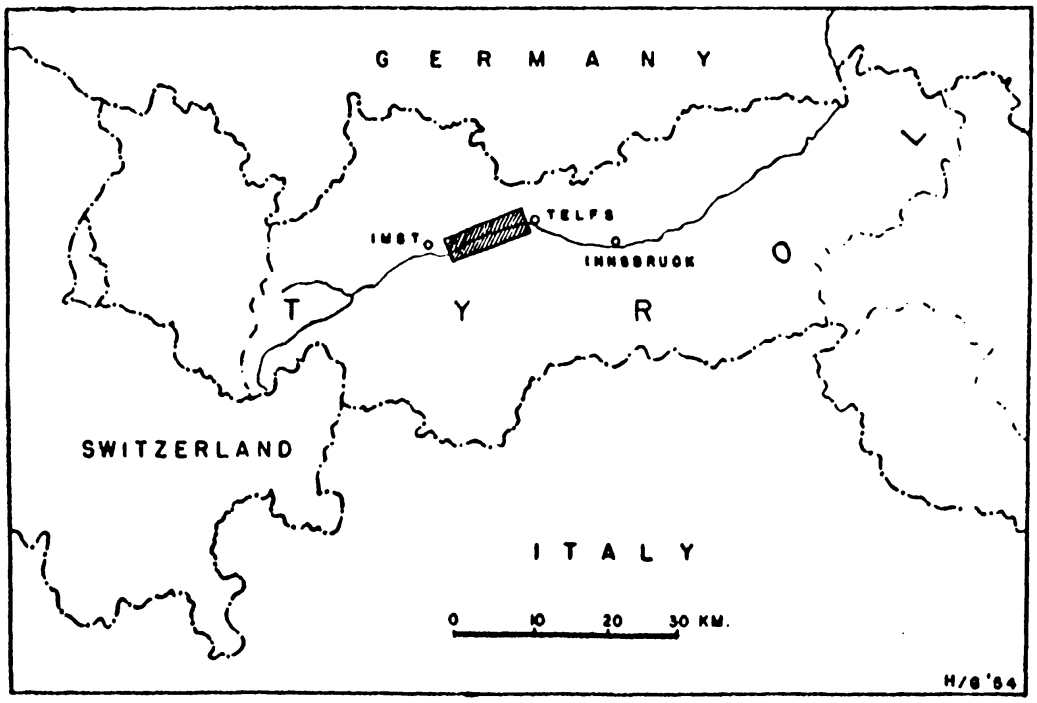
THE VILLAGES of Stams, Mötz, Silz, and Haiming, located between twenty-two to thirty miles west of Innsbruck, in an agricultural region of the Austrian Tyrol, constitute an area that has aroused great interest as a pilot project in co-operative planning and development. But little affected by the Industrial Revolution, bound by economic patterns and cultural customs, many of which have been in existence since Roman times, the Stams-Haiming region presented problems that could be solved only by a complete reversal of the former attitudes and practices of the local population. How they were brought to an awareness of joint responsibility in any basic undertaking and to an acceptance of technological change is the subject of this paper. It would be impossible to understand how enormous has been the reversal of attitudes and practices of these strongly independent peasants without understanding the history that has engendered them. Hence, various aspects of their culture, from the thirteenth century to the present, including the problems arising from staunch adherence to customs and laws, population increases, recurrent droughts, and technological changes of the nineteenth and twentieth centuries, have been treated in an effort to show how these factors finally impressed upon the people the need for regional planning.

The Problem

Heights in the west, running diagonal to the Inn trench, hold back rain-bearing winds from this region; the steep slopes of the Tschirgant Range block the entry of northwest weather. The Stams and Silzer oak forests, running diagonally across the Inn Valley, modify east winds, and from the steep

NOTE.—Another paper, the emphasis of which is upon the technological developments that have taken place in the Stams-Haiming region, is being published by the author under the title "Regional Planning in the Inn Valley of Austria" (Michigan Academy of Science, Arts, and Letters, Vol. XI, 1955 [1954 Meeting], Part III, 181–88). Information presented in the present paper, the emphasis of which is upon the historical and cultural background of the region, was collected in that area during field work extending over a period of several months in the first part of 1953. This field work was made possible by grants received from the Fund for the Advancement of Education (Ford Foundation) and the Social Science Research Council. Cartographic and photographic aid from the Graduate Research Institute of the University of Texas is also acknowledged.



Orientation map of area

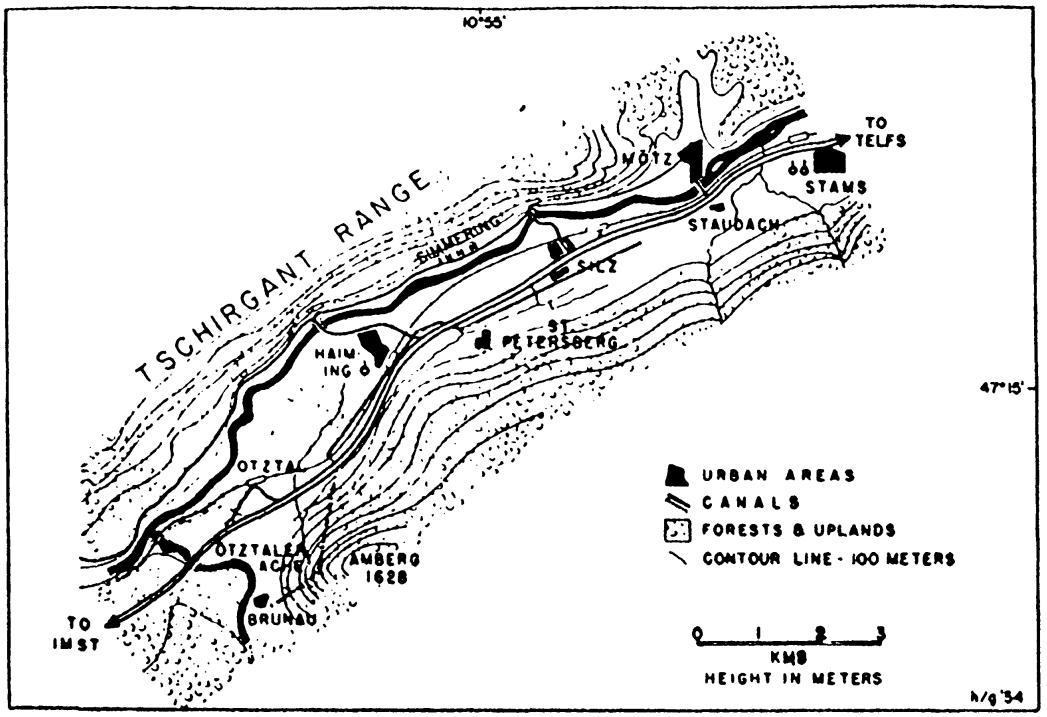
mountain meadows and forests to the south the *Föhn,* known among the people as "corn(maize)-roaster" (*Türkenröster*), influences the general climatic conditions of this area. Average precipitation, only twenty-nine inches, is very unevenly distributed. The sun shines on an average of eighty-four days—in comparison with forty-six days in Bregenz, located in the Alpine foreland. The area is representative of the dry, warm, bright interior Alpine valleys.

The slopes at Stams and Mötz are of diluvial origin, and the valley floor consists of alluvium. Various ridges make it possible to trace an earlier course of the Inn River. Stone deposits and rich hollows alternate with shallow-to-deep soil horizons. Soils are sand to loamy-sandy in the valley and sandy loam on the slopes. These soils are relatively easy to work but do not hold water very well. The available water has been distributed by irrigation canals since shortly after this region was settled. The differences between irrigated and nonirrigated areas are considerable, and local ordinances as early as 1542 regulated the use of the land for farming and animal husbandry.[1]

The region is located in the Middle Upper Inn Valley, the border between

[1] Otto Stolz, *Geschichtskunde der Gewässer Tirols,* Schlern-Schriften No. 32 (Innsbruck, Universitätsverlag Wagner, 1936), 307–12; and *Die Gesamtmelioration Stams-Mötz-Silz-Haiming* (Amt der Tiroler Landesregierung, Amt für Landwirtschaft, 1951), 8. The former work is hereafter cited as *Geschichtskunde,* the latter as *Die Gesamtmelioration.*

the Upper and Lower Inn Valley being clearly marked since Roman times. This border was mentioned in the thirteenth century as running from the mouth of the Melach River and along the foot of the Martinswand, five miles west of Innsbruck.[2] The Romans had counties of the Upper and of the Lower Inn Valley. In the Middle Ages these became the court districts of Sonnenburg (Innsbruck) and Hörtenberg (Telfs). But perhaps of even greater importance is a line of division running across the watershed between the Ötz and Pitz valleys, crossing the Inn trench between Silz and Roppen and continuing via Imst to the crest of the Tschirgant, a line which distinguishes between two cultural entities within the Upper Inn Valley. East of this line, German roots in the names of settlements are more numerous as compared with the Illyric and Rhaeto-Romanic names west of this line, the district of Silz and Imst being in marked contrast to each other. Differences in house types and in the physical characteristics of the people become noticeable. More of the pre-German characteristics appear west of this



The Middle Upper Inn Valley

line.[3] The original settlers of this area, Rhaeto-Romanic people, preferred settling in villages made up of houses irregularly clustered, without any definite plan (*Haufendörfern*); hence, widely scattered single farmhouses are

[2] Stolz, *Geschichtskunde*, 10.

[3] Otto Stolz, *Rechtsgeschichte des Bauernstandes und der Landwirtschaft in Tirol und Vorarlberg* (Bozen, Verlag Ferrari-Auer, 1949), 435–45, cited hereafter as *Rechtsgeschichte*.

relatively few. As a result of living very close together, fields at a distance became a normal development. To this must be added the Roman-law interpretation regarding the partitioning of land and soil, and the complete partitioning of farms, houses, and forests.[4]

The Land and the People at the Beginning of the Sixteenth Century

The region from Stams to Haiming was already densely settled in the sixteenth century. Haiming, Silz, Mötz, and Stams each had between three hundred and seven hundred inhabitants.[5] These villages, mentioned as having tax-paying inhabitants in the Tax Register of 1315, which was kept by the Court of St. Petersberg, all belonged to the court district of the Cistercian monastery of Stams—founded in 1275—or the court district of St. Petersberg, later to become the district of Silz.[6] These villages were governed either by mayors or by village elders, who, in turn, took orders from the local court, church officials, or provincial ducal authorities. Regardless of their own status—whether free or belonging to the feudal lords—all the people participated in the administration of their community as committee members, lawyers, jurymen, and tax collectors.[7] Records and detailed research by Stolz and others verify the fact that in most instances the new political divisions of the nineteenth and twentieth centuries followed the old established court districts,[8] which since the twelfth century had served as political, financial, and administrative districts, as well as court, and in many instances, church districts.

The compactly built villages were inhabited by the farm population of the region. Imst to the west and Telfs to the east served as supply-and-market centers. The houses gradually changed from wood to a stone or brick foundation.[9] The use of brick, especially for the living quarters and the kitchen, spread rapidly in the fifteenth and sixteenth centuries, not only because of

[4] Historically this region does not form a unit. Settlers originally owed allegiance to the monastery of Stams and the castles of Klamm and St. Petersberg.

[5] Estimate based on information obtained from the various cadasters in the Staatsarchiv Innsbruck and the publications by Stolz, Ulmer, Wopfner and others, quoted in this study.

[6] Otto Stolz, "Abhandlungen zum Historischen Atlas der österreichischen Alpenländer XV. Politisch-historische Landesbeschreibung von Tirol" (First part: Nordtirol), *Archiv für österreichische Geschichte,* CVII (1926), 463–511, and *Historischer Atlas der österreichischen Alpenländer (Landesgerichtskarten)* (Vienna, Akademie der Wissenschaften, 1910), cited hereafter as "Abhandlungen zum Historischen Atlas." Mötz was called at that time "Metsch," Silz, "Silze," and Haiming, "Haiminge."

[7] Stolz, "Abhandlungen zum Historischen Atlas," 278, according to provincial laws of 1532.

[8] Stolz, *Rechtsgeschichte,* 24. Stolz also cited the reports of the Venetian ambassador traveling through Tyrol in 1435. See also Marx Sittich von Wolkenstein, *Landesbeschreibung von Südtirol* (aus der Zeit um 1600), Festgabe zum 60. Lebensjahr Hermann Wopfners. Schlern-Schriften No. 34 (Innsbruck, Universitätsverlag Wagner, 1936), 62 ff.

[9] Stolz (*Rechtsgeschichte,* 49–53) briefly discusses the origin of the settlements in the main valleys of Tirol.

its greater safety but also because of the increasing shortage of timber, due, in part, to restrictions of feudal landlords or provincial rulers to reserve forests for their own purposes. The earliest Alpine single-unit house here had been large, a wooden or frame structure of two stories, usually with a balcony on the second floor and an overhanging roof, which was often protected with heavy stones. Under a single roof were the living quarters, kitchen, stable, and barn.[10] A few isolated farms are still to be found on the slopes and terraces of the Silzerberg and the Tschirgant. These farmhouses, often very small, extend above three thousand feet. Grazing pastures (*alms*) were sometimes found on the slopes of the mountains bordering the Inn Valley on the north and south at altitudes above three thousand feet.

Fields of each village were divided into several strips—on an average, ten—and each individual farm received some. In Tyrol these strips were called *Gestösse* (*Gsteas*), and in the dialect sometimes *Ridel*.[11] Records showing the number of fireplaces, and later the farms and their size, are available in the *Urbaren*,[12] dating back to the end of the thirteenth century,[13] but the exact location and description of individual property pieces were not available until the taxation registers under Empress Maria Theresa in 1775.[14] The custom of recording changes in the ownership of farm property was introduced in Tyrol at the beginning of the sixteenth century and records have been kept since that time in books by the local courts, a custom not adopted by other Austrian provinces until the eighteenth century. Individual farmers were closely bound to the community and by the laws which the community promulgated for performing certain field duties, e.g., the time of harvest, grazing periods for the cattle, distribution of manure on the fields, etc. The use of the fields, under the three-field system, was still determined by the community as late as the beginning of the sixteenth century. The period of vintage was also prescribed by the community and changes had to be approved by provincial ducal judges.[15] *Egarten*—the use

[10] Otto Rauter, "Das Bauernhaus im Gau Tirol und Vorarlberg," *Schriften für neues Bauerntum* (Berlin, Verlag Deutsche Landbuchhandlung, 1943).

[11] "*Ridel*" means making arable and can be traced to "*reuten*" or "*roden*."

[12] "*Urbare*" are records showing the properties of a feudal lord and the duties to be performed by his subjects.

[13] A tax list for the court of St. Petersberg is published in Karl Dörrer, "Eine Steuerliste des Gerichtes St. Petersberg (Sils) von 1325," in *Quellen zur Steuer-Bevölkerungs-und Sippengeschichte des Landes Tirol im 13., 14., und 15. Jahrhundert*, Festgabe zum 80. Lebensjahre Oswalds Redlichs. Schlern-Schriften No. 44 (Innsbruck, Universitätsverlag Wagner, 1939), 87–92, cited hereafter as *Quellen zur Steuer*.

[14] Even the tax descriptions of the sixteenth and seventeenth centuries give the property only as a whole; it is therefore impossible to record partitions of property. See Stolz, *Rechtsgeschichte*, 26–29; also Otto Stolz, "Zur Geschichte der Landwirtschaft in Tirol," *Tiroler Heimat*, III (1930), 93–139.

[15] *Ibid.*, 94.

of one and the same field over a period of years, first as arable land, later for meadows—was common in these communities.

Irrigation was generally necessary and was practiced in the whole area.[16] Treaties during various periods of the sixteenth century mention the amount of water to be drawn from Ötztaler Ache and the Ambach, responsibility for upkeep of ditches, and the payments for enlarging this irrigation system.[17] The first part of the sixteenth century saw the first drainage work in the grassy plains of the Inn River result in additions to the meadows and fields of the individual communities. Dikes were erected against the floods of the Inn, and the monks from the monastery of Stams led in drainage and irrigation projects.[18]

Haiming, Silz, Mötz, and Stams each owned communal forests, but these were under the strict supervision of the provincial forest officials. These officials prescribed the amount of timber to be cut by the individual communities, which was based on their estimated needs for heating, building, and repair. Regulations about uses, considerably tightened since the end of the fourteenth century, were one of the reasons for the dissatisfaction among the farmers, expressed both in petitions and at the large protest-meetings attended by local farmers in Innsbruck in 1525.

Partitions of fields and farmhouses in this region were fairly common. The original seventy-two-*Star*[19] area farm has been partitioned several times, and records of this century often indicate one-quarter or even one-sixteenth farm.[20] If new parcels of arable land could be added to individual holdings, several farm families could make their living, but when additional land was not available, in some cases individual holdings could not supply even one family. Such partitioning resulted in much poverty, repercussions of which were still felt in the twentieth century. By 1404 regulations had been issued by various feudal lords, making partitions of farm land dependent upon their permission,[21] but in many areas the old practice continued, especially in those lands west of the earlier-mentioned Ötz Valley–Imst line.

Rye, barley, oats, and wheat, in the order given, were the cereals most

[16] Stolz, *Die Gesamtmelioration*, 8.

[17] After the people of Silz complained to Archduke Maximilian in 1612 about the irresponsibility of the people of Haiming in not taking proper care of their irrigation ditches, and demanded payment for damages, a commission finally agreed in 1615 on one irrigation system for the whole area between Haiming and Silz. The work done in the seventeenth century lasted until the middle of the twentieth century, a proof of the excellent techniques used.

[18] Stolz, *Geschichtskunde*, 273–84.

[19] "*Starland*" equals the area on which one *Star* of rye could be sown, about 7,450 sq. ft. This equals approximately a fifth of a *Jauch*. The Tyrolean *Jauch* has 1,000 *Klafter* or 0.4 hectare (1 ha. equals 2.471 acres). *Jauch* is the common measurement for arable land, *Morgen* for meadows, forests, and pasture.

[20] Various authors, *Quellen zur Steuer*, 55, 89, 92.

[21] Stolz, *Rechtsgeschichte*, 434 ff.

Primitive method of irrigation still in use

The Inn Valley, looking toward the east

popular in the sixteenth century. Animal husbandry was little known at this time, and milk and cheese were produced only for the farmer's use.[22] Taxes were paid in cereals, and surpluses were usually bartered. Farmers were able to make for themselves most of the tools needed for their work. Dopsch and others report that the tools were also used to pay rent.[23] Women were occupied with the spinning of flax and wool, flax being quite plentiful in the nearby Ötz Valley. Wool was woven into a coarse woolen waterproof cloth (*Loden*) and was worn by men for both everyday garments and for Sunday clothes. Some farmers earned additional income by selling their home produce to traveling buyers, a means of livelihood which had become widespread during the late Middle Ages.

The position of farmers in the Middle Upper Inn Valley at the beginning of the fifteenth century, like the general position of farmers in North Tyrol, had considerably declined since its favorable economic status at the beginning of the thirteenth century. Complaints in the form of petitions to the provincial ruler were leveled against the extended rights of the feudal lords—both secular and ecclesiastic. Prices for cereals declined and, as a result of overpartitioning of farm land and houses, income of individuals was reduced. Owing to these developments, surplus farming population sought employment in the salt works of Hall, seven miles east of Innsbruck, the silver mines near Schwaz, in the Lower Inn Valley, and several other mines throughout the valleys of Tyrol. Also the growing cities, particularly Innsbruck, gave employment to an ever-increasing number of farmers. These small farms, especially those at high altitudes, often could not produce sufficient to support their owner, and were sold by him to financially stronger people; who, in turn, combined them with their own holdings (*Zugüter*).[24]

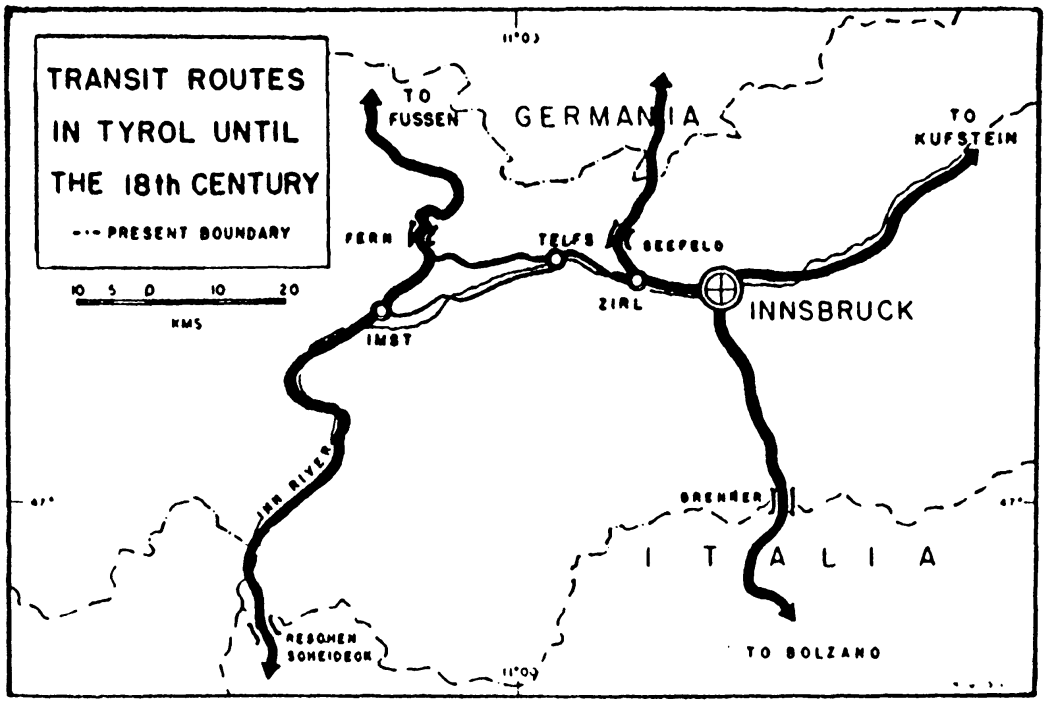
The people of the region had a reputation for being very conservative. Changes affecting other villages were slow to impress themselves here. Such conservatism can perhaps be attributed to the location of this region with regard to the main transportation arteries of North Tyrol at the beginning of the sixteenth century. The main routes did not follow the Inn Valley between Telfs and Imst, and even though bridges are reported to have spanned

[22] Hans Telbis, *Zur Geographie des Getreidesbaues in Nordtirol,* Schlern-Schriften No. 58 (Innsbruck, Universitätsverlag Wagner, 1948), 34–35. Telbis discusses the history of today's cereals in North Tyrol. Wheat is the oldest in use, followed shortly by barley; rye and oats were introduced in North Tyrol during the first and second century.

[23] Alfons Dopsch, *Die Ältere Wirtschafts-und Sozialgeschichte in den Alpenländern Österreichs,* Instituttet for Sammenlignende Kulturforskning, Series A (Oslo, H. Aschehoug & Co., [W. Nygaadr], 1930), 121 cited hereafter as *Die Ältere Wirtschafts;* also Hermann Wopfner, "Zur Geschichte des bäuerlichen Hausgewerbes in Tirol," in *Tiroler Wirtschaft in Vergangenheit und Gegenwart,* Festgabe zur 100-Jahrfeier der Tiroler Handelskammer, Band I, Schlern-Schriften No. 77 (Innsbruck, Universitätsverlag Wagner, 1951), 203–32.

[24] Dopsch (*Die Ältere Wirtschafts,* 130–31) also reports provincial regulations against these customs.

the Inn near Haiming as early as 1320 and Mötz after 1472, they served local traffic exclusively, and at Mötz they connected Stams with the road between Telfs and the Fernpass.[25] The road from Telfs continued, crossing at Haiming to continue to Karres and Imst. The mouth of the Ötztaler Ache, where the main bridge crosses today, offered difficult bridge-building prob-



lems because of constant floods and an ever-changing riverbed. The Telfs-to-Imst region via the Inn Valley was not important in the transportation pattern of the Tyrol until the road across Arlberg Pass was built by Maria Theresa in the eighteenth century.

The Inn River played a minor role in the region. Timber had been rafted as early as the thirteenth century, and this method of transportation grew in importance when timber was needed in increasing quantities for the salt works in Hall. Raft transportation started in Mötz or Telfs.[26] By the end of the fifteenth century, local communities began to show interest in building dikes along the Inn, but not until Maria Theresa's time was actual river-regulation work carried out by means of a general plan. By then the Inn

[25] Stolz, *Geschichtskunde*, 422–23.

[26] Eugen Hauf, "Die Umgestaltung des Inn Stromgebietes durch den Menschen," *Mitteilungen der Geographischen Gesellschaft in München*, XXXVII (1952), 9–180; also Otto Stolz, "Zur Verkehrsgeschichte des Inntales in 13. und 14. Jahrhundert," *Veröffentlichungen des Museum Ferdinandeum*, No. 12 (1932), 69–109.

River, as a means of transportation, had begun to lose its importance to the newly built roads.

Increasing Population

Little information is available on the exact number of people in the individual communities during the Middle Ages, even though the records of the monastery at Stams show that at various times as many as thirty-one different fireplaces (one for each farm home) were recorded for tax-paying purposes. On the other hand, a large part of the property of the monastery was located outside our area of investigation. Silz recorded at the end of the fifteenth century as many as twenty-one fireplaces. We therefore can only estimate the approximate population curve throughout most of 1500–1800.

One fact which permits deductions is the extent of permanent occupancy of farmhouses in higher altitudes and the number of partitionings of farm properties, including houses. Wopfner[27] believes that most Alpine valleys during the sixteenth century had an overpopulation in relation to the production and production techniques of this period. The Upper Inn Valley, according to him, was in a particularly difficult position. This was brought about partly because the population increased faster than the unused, or only extensively used, land could be brought under intensive cultivation or than cultivated land could increase its output. Also, the Thirty Years' War, with its devastation of small rural settlements, never penetrated the Tyrol, and the population therefore was not reduced by war, though surplus population during the second half of the seventeenth century did emigrate to other countries. People from the Tyrol went especially to those areas depopulated by the ravages of the Thirty Years' War—Pfalz, Saar, Württenberg, and Franconia; later, emigrants moved to the Rhineland and other parts of west and southern Germany. The population of the region increased but slowly during most of the century and, according to figures that later became available, reached about three thousand people at the Theresian Census of 1754.[28]

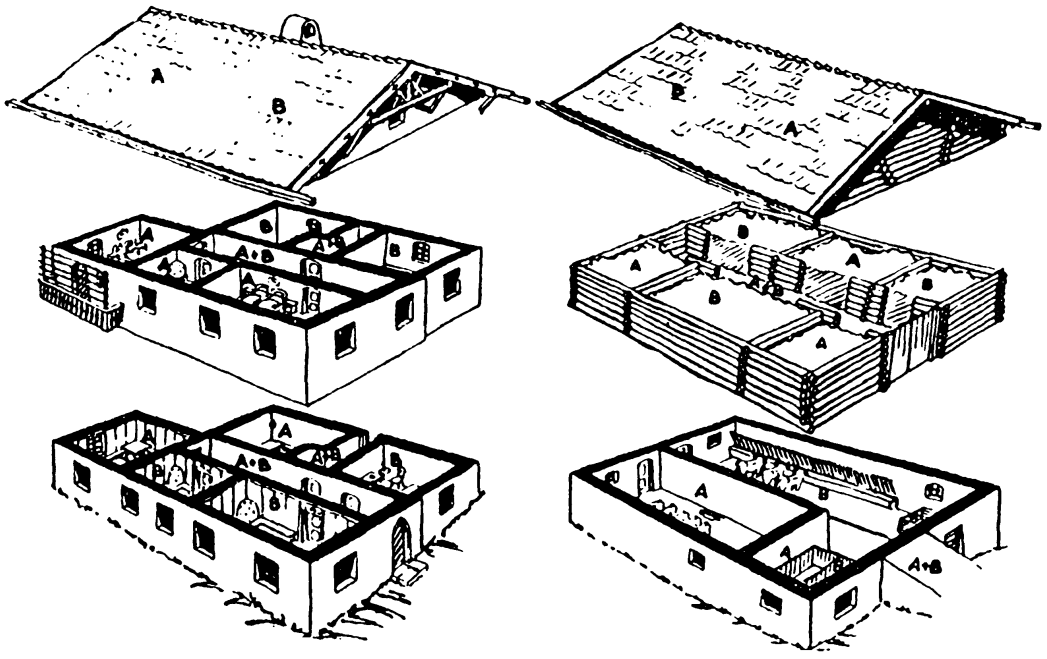
One practice in wide use in different areas of the Upper Inn Valley was the yearly journey, referred to as *"Zug der Schwabenkinder."*[29] Between roughly 1625 and the beginning of the nineteenth century, each spring a large number of children between the ages of eight and sixteen went to

[27] Wopfner, "Zur Geschichte des bäuerlichen," 202–203.

[28] Information supplied to the author by local authorities in Imst, Silz, and Stams. Census figures were available for only whole church or court districts; due to the fact that the area under study never formed a political unit, all population figures are estimated.

[29] Ferdinand Ulmer, *Die Schwabenkinder, ein Beitrag zur Sozial-und Wirtschaftsgeschichte des Westtiroler Bergbauerngebietes* (Innsbruck, Universitätsverlag Wagner, 1943). Stolz (*Rechtsgeschichte,* 477), citing others, mentions a figure of twenty-six hundred people for the Upper Inn Valley itself.

Swabia to work for rich farmers and returned in winter. Excess population, the partition of farms, and the resultant smaller incomes forced parents to seek this source of extra income. Only the industrialization in Tyrol late in



Examples of house partitions

the nineteenth century and finally the First World War stopped this movement completely. Adults with a knowledge of various trades went to various surrounding countries, returning home once every two or three years. With the beginning of industrialization and continued emigration during the nineteenth century, the problem of surplus population slowly disappeared, and many unproductive farm units in higher altitudes were permanently

TABLE 1

Growth of Population, 1910–51

	1910	*1923*	*1934*	*1939*	*1951*
Haiming	1,206	1,270	1,386	1,505	2,700*
Silz	1,240	1,212	1,462	1,339	1,537
Stams	561	543	640	689	824

* The large increase in Haiming between 1939–51 is due to an influx of refugees (940), who were quartered in barracks. However, owing to emigration to overseas countries, the number is slowly decreasing. A few refugees from South Tyrol still live in all three of these communties, though some have already returned to their former homes.

Source: "Die Bevölkerung Tirols, 1910–1948," *Landesstelle für Statistik und Landerkunde*, Nr. 5, Innsbruck, 1948; also *Volkszählung in Österreich*, Part II, 1951; Wien, Österreichisches Statistisches Zentralamt, 1952.

abandoned, their owners seeking employment in the nearby cities—Imst, Telfs, and especially Innsbruck. Table 1 shows the 1910–51 growth of

population for the three village areas (*Gemeinden*) of the administrative district of Imst.

The Problem of the Partitioned Agricultural Properties

It has been stated that one of the great problems was the continuous partitioning of farm land and houses, which, owing to increased population pressure, had by the fifteenth century led to the establishment of small, often unproductive, farm units. Even though the feudal lords or provincial authorities tried at various times to halt this development, due to tradition and economic facts, especially in the Illyric–Rhaeto-Romanic part of Tyrol, the situation grew worse as time went on. Many farm laws and agricultural statistics could be cited to explain the historic development which led to these conditions. Stolz, for instance, in his monumental work on the juridical position of the farmers in Tyrol and Vorarlberg and others have discussed this in great detail. But since the purpose of this study is to show the changed cultural landscape in the Middle Upper Inn Valley, a breakdown indicating the constant shrinkage of the old seventy-two-*Star* farms is more useful. Figures available for Silz, dated 1740, show the occupants' relationship (Table 2) and show the comparison with reference to developments by 1948.

TABLE 2

Partitioned Occupancy, Silz, 1740–1948

Year	*Total No. of Houses*	*No. of Family Units per House*					
		1	*2*	*3*	*4*	*5*	*6*
1740	94	34	49	7	3	. .	1
1948	134	84	48	3	. .	. .	. .

Source: Stolz, *Die Gesamtmelioration*, 5. This compilation indicates that new houses have not been partitioned as much as formerly.

Partitioning of the houses was quite irregular and made life for the occupants difficult, especially if certain facilities—the kitchen, for instance—were used by all occupants. Though the early occupants may have been related to each other, I visited many houses where the present occupants are virtually strangers. As a result of constant subdividing, the 2,660 acres of farming area in the Stams-Haiming region belonged to 596 owners in 1948, prior to redistribution according to the new plan. Table 3 shows the 1948 distribution of the agricultural properties.

But the truly remarkable thing is that the 394 farms of more than 1.24 acres were partitioned into 5,100 pieces, which means that on an average, each farmer had 13 separate pieces of land. To this must be added the 90

very small farms, so that in reality many farmers in the Stams-Haiming area had as many as 30 different pieces of land, some at distances of as much as 3.3 miles from each other. An additional problem was the ownership by one farmer of plots in different villages, a condition especially common between Silz and Mötz. In spite of these partitions, no direct roads were built, and as a result a large number of crossing and connecting roads had to be

TABLE 3

Division of Agricultural Properties

Size of Farms in Acres	*No. of Farms*	*Remarks*
Less than 1.24	202	Farming only incidental
1.24– 2.47	90	Farming only incidental
2.47– 4.94	120	Farming, but with additional income
4.94–12.35	165	Farms
More than 12.35	19	Largest farms
Total	596	

Source: Stolz, *Die Gesamtmelioration*, 5.

legally established, disturbing the land use. Ownership of forests was also most complicated, especially since at the beginning of the eighteenth century communal usage largely ceased. Here, also, partitioning was common, and individual portions were extremely restricted, with the community forest of 525 acres distributed among 392 farmers.[30] After repeated droughts, it became evident that the people would listen to any reasonable proposal to save them from this untenable position.

The Changing Agricultural Landscape

As mentioned earlier, rye, barley, oats, and wheat were the cereals planted in the Middle Inn Valley at the end of the sixteenth century. The importation of maize into Tyrol was of great importance, especially in the Middle and Upper Inn Valley, quickly replacing rye as the leading cereal produced. The cadastral surveys of the court of Hörtenberg (Telfs) mention maize for the first time as being in use over a large area by 1625 and from the books of St. Petersberg it was indicated that as early as 1585 maize was brought into the area as a wife's dowry.[31]

[30] Stolz, *Die Gesamtmelioration*, 7–8, 21–22.

[31] Telbis, *Zur Geographie*, 29–33; Stolz, "Zur Geschichte der Landwirtschaft," 93–139; Hermann Wopfner, "Bäuerliche Siedlung und Wirtschaft," in *Tirol—Land und Natur, Volk und Geschichte, Geistiges Leben* (Munich, F. Bruckmann, A. G., 1933), 207–304, cited

Potatoes were not introduced until the end of the eighteenth century, but they became of great importance as food, partly because they could be planted at altitudes above the upper limits of cereal cultivation. According to Stolz and others, by the 1830's they were already widely but irregularly used. So far as the Middle Upper Inn Valley was concerned, the beginning of potato-planting coincided with the greatest expansion of cereal cultivation, which after 1830 dropped considerably, as in other parts of Tyrol.[32] The population increased slowly but steadily, and had reached its highest level at about this period, partly because of decreasing emigration possibilities.[33] When the region had reached the limit in available land for cultivation, potatoes were introduced at the expense of cereal products. Between 1836–1900—the approximate beginning of intensive agricultural production—cereal acreage decreased as much as 40 per cent in the Middle Upper Inn Valley, but a large part of the decrease was due to its replacement in higher altitudes by potatoes, not to any basic acreage change in the valley floor.

The real reasons for this decrease are closely connected with the changing transportation situation: the opening of the Innsbruck-Kufstein railroad in 1858, the Brenner railway in 1867, and the Arlberg railway, which has crossed the entire Stams-Haiming area since 1884.[34] This brought about cheaper importation of foreign cereals and had an important bearing on the reduced cereal acreage, especially maize. With decreasing prices and a shortage of agricultural workers—noticeable with increased industrialization—the farmer shifted from cereal production to grazing and animal husbandry. Growth of the urban centers and new means of transportation enabled him to sell milk, cheese, and meat at better prices, and his needs in flour and fodder were relatively inexpensive. With greatly increased cereal yields after 1900[35] it was possible to obtain from a small acreage sufficient grain for the

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hereafter as *Tirol—Land und Natur;* also E. Mayr, "Die Ausbreitung des Getreidebaues, die Anbau-und Erntezeiten und die Fruchtfolgen in Nordtirol und Vorarlberg," *Veröffentlichungen des Museum Ferdinandeum,* No. 15 (1936), 1–27. A large literature can be cited not only discussing the direction maize took before coming to Tyrol, but also analyzing reasons for its local name, *"Türkischer Weizen."* Telbis cites the most important writings and presents conclusive evidence that maize entered North Tyrol from the Brenner Pass and South Tyrol.

[32] Telbis, *Zur Geographie,* 50–51.

[33] Hermann Wopfner, "Die Güterverteilung und Überbevölkerung tirolischer Landbezirke im 16. 17. und 18. Jahrhundert," *Südostdeutsche Forschungen,* Jahrgang 3 (1938), 202.

[34] For a general discussion, see Otto Stolz, "Zollwesen und Handelsverkehr in Tirol in alter Zeit," in *Tiroler Wirtschaft in Vergangenheit und Gegenwart,* Festgabe zur 100-Jahrfeier der Tiroler Handelskammer, Band I. Schlern-Schriften No. 77 (Innsbruck, Universitätsverlag Wagner, 1951), 53–76; also Franz Egert, "100 Jahre Tiroler Verkehrswirtschaft," *ibid.,* 354–91.

[35] Total cereal production for 1926–35 was approximately the same in quantity as for 1891–1900, though the acreage had decreased in the Middle Upper Inn Valley by as much as 19 per cent.

farmer and his family and a surplus for cash income. But foreign import held this down automatically. The acreage freed in this way was used for potatoes and fodder (rape, alfalfa, and clover). Table 4 shows the distribution of grain cultivation in the district of Imst in 1943, but attention is again drawn to the fact that the village boundaries include sections in higher altitudes and other areas not considered in this paper.

TABLE 4

Distribution of Grain Cultivation, District of Imst, 1943
(Figures in percentage of total arable land)

Court District	*Wheat*	*Rye*	*Barley*	*Oats*	*Maize*	*Total Acreage*
Haiming	15.1	11.8	3.6	1.2	23.3	55.0
Silz	14.1	14.4	0.5	. .	20.2	49.2
Stams	13.6	14.2	3.7	0.5	18.3	50.3

Source: Agricultural Statistics of the Ostmark, 1943 (privately distributed).

Since shortly before the Second World War this development has declined. Milk, eggs, cheese, and meat products have been increasing in importance, with the exception of a short period after the war, due to government policies controlling imports and guaranteeing prices. Acreage in cereals has increased slightly, but, on the whole, increased production in maize, wheat, rye, and potatoes, as well as fodder crops, is being brought about by greater yields and modern technological developments.[36]

Social Status of the Farmer and Some of His Customs

Serfdom has not existed in Tyrol since the fifteenth century. The farmer, like all other people in the land, was subject to the orders and laws of the Dukes of Tyrol.[37] Certain rights, such as election of their own administrators for their communities, as well as representation on the provincial diet as a quasi-fourth group, were well established in Tyrol, which improved the position of the peasant very much in comparison with those in other Alpine countries. Clever policies by the peasants in taking the side of the Duke during the fifteenth-century wars made it possible for them to get his backing against the local feudal lords. By the end of the seventeenth century the peasants had gained considerable security.

Their position was further greatly improved after the Revolution of 1848–49, when the All-German Parliament, meeting in Frankfurt, decided on a cancellation of most of the debts on farms. Even though the peasants

[36] From discussions with farmers in various parts of the Inn Valley.

[37] Other Austrian provinces did not abolish serfdom until the edict of Emperor Joseph II in 1787.

had to pay one-third of these old-established debts over a period of forty years, the whole procedure was completed successfully, and for the first time in history the farms actually belonged to the peasants and were not only for use by them.[38]

The social standing of the peasant, naturally dependent to a certain degree upon the size and wealth of his farmholdings, had been considerably improved since the fifteenth century. Various reports admonished him not to dress too elaborately, church edicts set forth the limitations of drinking on certain days and curtailed his eating habits at festivals, etc. On the other hand, church festivals, such as Christmas, Lent, Palm Sunday, Easter, etc., were and are celebrated, especially in the rural communities, with much pomp and ceremony. Even pre-Christian customs and old forgotten legends were resurrected in the seventeenth century and became the justification for entertainment and frolic for many communities or were combined with church celebrations. Mention should be made here of the old celebration of the *Schellerlaufen* (bell ringers), which was and still is so popular in Imst, Telfs, and nearby Nassereith. This custom, celebrating the passing of winter, has been observed in these villages since 1670. Old Man Winter, in the form of a bear, is kicked around until he is finally killed. Every half-forgotten legend, every half-remembered superstition of Tyrol has been woven into the pageantry. The basis for the *Schellerlaufen*—the *Grassausläuten* (ringing for grass)—and other similar customs is closely tied to the land and gives a vivid impression of the people's love for frolic and entertainment after a day of hard work—something for which Tyrolean peasants are well known.[39]

The Industrial Age, Two Wars, and the Need for Community Planning

The Stams-Haiming region was until very recently only indirectly affected by the industrial expansion that has been taking place since the end of the eighteenth century. Its people first sought employment in nearby enterprises; later they moved to Innsbruck and the mines and factories of the Lower Inn Valley. The men from the area were in demand for their ability in metal work and carpentering and for their artistic ingenuity. Proof of these abilities is the large number of small craftsmen who farmed for incidental income or vice versa. When, during the nineteenth century, more and more craftsmen were needed in the increasing number of factories all over the

[38] Stolz, *Rechtsgeschichte*, 142 ff.; Dopsch, *Die Ältere Wirtschafts*, 118–20, 140–57; also Josef Buchinger, *Der Bauer in der Kultur-und Wirtschaftsgeschichte Österreichs* (Vienna, Österreichischer Bundesverlag, 1952). Buchinger's book is interesting and of value for the over-all picture, but there are errors in some details.

[39] Hermann Wopfner, "Entstehung und Wesen des tirolischen Volkstum," in *Tirol—Land und Natur*, 179–91.

province and neighboring countries, many moved away, selling their farmholdings.

The beginning of industries in Tyrol can generally be dated from the second half of the eighteenth century. To judge from letters available and official documents now in the archives at Vienna and Innsbruck, Tyrol in 1770 must already have been an area with many new enterprises, which were encouraged by the provincial government and Maria Theresa. The new road-building program under this enlightened ruler of Tyrol and Austria—actually the first one since Roman times[40]—contributed to increased trade of the whole province. According to records a flax- and cotton-weaving factory was busily at work in Imst, giving nearly seventeen hundred people an opportunity to earn their living, most of them in their homes. A new textile factory in Telfs had just received help from the Austrian government in the form of customs releases.[41]

It was a period of important transit trade, the building of big inns along the more important roads, and the establishment of many new enterprises.

The Stams-Haiming region was still apart from the main roads and therefore was considered a purely agricultural area, a status unchanged to this date. Even the building of the new east-west railroad in 1884 did not change materially the situation in this region. The fast trains have never stopped at these villages except in the tourist season, when tourists, going into the Ötz Valley, change at the station of Ötzal, located in the village boundary of Haiming. Freight trains stop to pick up timber and take a few commuters as far away as Innsbruck.

The last two wars have changed the life of the peasants in the Stams-Haiming region but little. No war industries were built in the area, though the peripheral towns, Telfs and Imst, greatly increased their industrial life. Many people either worked in the nearby factories or served with the German Army. Animals had to be slaughtered excessively during the war because of the shortage of fertilizer and fodder, and additional acreage was planted in cereals. Plans were laid for a new power plant with a generating station, but the plant was built outside the region (near Roppen) and only the four transmission lines cross the area. These lines further restrict the arable land.

Three times in the last fifty years drought came to this region and the cry for water became general. Plans for projects were prepared for increasing

[40] Although existing roads were improved, no new roads are recorded in the area of what is today Tyrol. In the eighteenth century the Fern road, the road of the Stilfser Joch, and a road across the Arlberg were built.

[41] Friedrich Walter, "Zur Wirtschaftslage Tirols um 1770," in *Tiroler Wirstchaft in Vergangenheit und Gegenwart*, 257–79; also Adolf Guenther, "Tirols Gewerbe an der Schwelle des 19. Jahrhunderts," in *Tiroler Wirtschaft in Vergangenheit und Gegenwart*, 282–304.

the irrigation ditches originally built in the fourteenth century, especially for adding water from the Ötztaler Ache and the Ambach. Plans also called for additional canals to bring water from the Ache underground through the Amberg and distribute it over an area reaching between Haiming and Stams. But financing the project and the problem of the many partitioned pieces of farmholdings were unsurmountable obstacles during the prewar years. The third drought, after the Second World War, was the worst. Irrigation ditches lay dry and the whole agriculture in the region was threatened, even the whole economic life. It was at this time that the Federal Ministry for Agriculture and Forestry, together with the provincial departments, agreed to participate in a new project if the whole area could be included.

Because consolidation of these partitioned farmholdings offered a unique opportunity, various other projects closely connected were incorporated in the general planning for this region. New deep-wells were drilled, new field-and-utility roads were laid out, and property was combined according to communities. Also the compactly built-up areas of the villages were made less dense, and community property was divided into individual farmholdings. Farm houses were built on the left bank of the Inn River where meadows had been in use for many years. A fruit-tree nursery was laid out, and with the help of the ECA a refrigeration plant for fruits and a modern food-storage and processing plant was built near the railroad station of Ötztal. A new textile industry moved into Silz in 1951. The whole area ultimately will be under intensive silo economy. Ensilage (maize and alfalfa) has been suggested as especially valuable for this region.[42]

Out of all these projects a general plan developed for the region. This plan was actually put into operation with the financial help of the federal and provincial government, with community co-operation, and with American-supplied ECA funds. The project was completed and put into operation in 1952, after a construction period of only four years. After constant deterioration for several centuries, the Stams-Haiming region is today one of the most progressive and advanced farm communities in the Alps.

The Middle Upper Inn Valley—a Pilot Project

This co-operative project was the first such venture in this valley. The problems facing the area had grown through many centuries. Modern technological developments and a newly found unity experienced among its people after the Second World War made the successful completion of this

[42] Stolz, *Die Gesamtmelioration*, 8–24. Also in discussions with Oberbaurat Johann Weingarten and Dr. Herbert Thalhammer of the Tiroler Landesregierung; Dr. Franz Fliri, of Baumkirchen, Tirol; village officials in Haiming and Silz, members of the Cistercian monastery of Stams, the manager of the food-storage and processing plant in Ötztal, and farmers in the communities under study.

project possible. The reason for the selection of this area for such an undertaking is obvious. Something new, something daring, had to be undertaken lest a more rapidly declining agricultural production become a certainty. The people of the region were ready to put aside special interests. Various governmental agencies, including the European Recovery Program (Marshall Plan) of the United States, agreed to co-operate. The basic problem—consolidation of partitioned landholdings, a serious deterrent to progress in many regions of Europe—first had to be voluntarily accepted by the owners of these many individual plots and a few absentee landlords. Once this problem was successfully solved, financial assistance became available to survey soil conditions, increase irrigation facilities, build new farmhouses, introduce experimental orchards, and buy machinery.

Three lessons were learned from this project: (1) awareness of joint responsibility as the basis for any undertaking; (2) willingness on the part of the owners to give up traditional customs: partitioning of farms, forests, and, to a lesser extent, houses; and (3) willingness of the farmers to work newly assigned plots and to apply new methods, e.g., introduction of new crops, greater use of farm and irrigation machinery, and the joint use of storage and processing facilities.

Farmers as a class are more cautious than many other workers in experimenting with new methods and new machinery. People from other Alpine areas therefore looked upon the experiment of the Middle Upper Inn Valley with more than passing interest. Scores of similar projects all over the Alpine parts of Austria and across its borders are awaiting their turn. Although not all projects are of such a diversified nature, or of such great urgency or so long in the making, their importance in terms of local conditions and effects is nevertheless real. The success of the pilot project has been unanimously acclaimed as highly beneficial to all concerned.

Local organizations and governmental agencies have been planning many joint co-operative undertakings, e.g., reforestation, both as avalanche protection and as a long-term investment in the form of increased farm income in various regions of the Eastern Alps;[43] regional planning in one of Tyrol's poorest valleys, the Pitz Valley;[44] irrigation and reforestation of one of Austria's driest regions, the Kaunerberg near Prutz in the Upper Inn Valley;[45] regional planning in connection with greatly increased industrial ac-

[43] Walter Strzygowski, "Geographische Veraenderungen in Österreich, 1938–1953," *Geographische Rundschau*, 5 Jh. No. 10, October, 1953, pp. 365–72.

[44] Georg Fromme, *Schach der Waldverwüstung* (Vienna, Österreichisches Produktivitäts-Zentrum, 1952), Part I (the Pitz Valley), 74.

[45] Georg Fromme, *Schach der Waldverwüstung* (Innsbruck, Tiroler Landesregierung, Wildbach-u. Lawinenverbauung, Sektion Innsbruck, 1953), 42; Part II (Kaunerberg), 57–69 (private distribution).

tivities in the Lower Inn Valley between Innsbruck and Kufstein, and many others.

The work undertaken in the Middle Upper Inn Valley serves as a pilot project for similar projects all over the Alpine provinces of Austria and to some extent in the neighboring countries of Switzerland, Germany, and Italy. New forces are at work, and only the financial limitation of the communities and the provinces offers a block to more rapid development. Modern technology and a spirit of co-operation are revamping many old traditions in the Alpine regions.