

is eliminated. The use of colors makes unnecessary the granting of aid to illiterates within the compartments.

The objections to the machine are, first, that it affords no means of rectifying mistakes on the part of the voter, for if he presses the wrong knob inadvertently, the vote is recorded beyond recall; second, that it is in the interest of straight party voting of the blindest and most unreasoning kind; and third, that it makes no provision for the voter who wishes to cast a ballot for some name not upon the regular ballots. The first objection is the most serious, though there is this to be said of it, that in all trials thus far made of the machine no mistake of the kind mentioned has been made. The second objection is one that applies to all those adaptations of the Australian ballot-system which arrange the names of candidates in party columns, with a party name, and sometimes an emblem also, at the top. There are nineteen States which have laws providing such arrangements. The third objection is met by an improvement in the machine which its inventor has designed. It consists of a blank column arranged with

knobs like the others. When one of its knobs is pressed in, a slot opens in the column in which appears a roll of paper of sufficient width to allow a name to be written or pasted upon it. The slot is closed by the opening of the exit door, and the roll of paper is turned in such a way as to present a blank space to the next voter wishing to use it.

A machine similar to the Myers was invented by J. W. Rhines of St. Paul in 1889. He applied the principle which Myers uses to a desk with a keyboard. When the voter opened the desk, which was placed in a stall in the voting-room in full view of the election officers, a screen was drawn up before the stall, shutting him from observation. The vote was recorded in the same manner as in the Myers machine. The Rhines machine arranged the keys in the alphabetical order of candidates' names under each office, requiring the voter to read and select the name of each candidate for whom he wished to vote; but its inventor also had in mind the adaptation to it of the party-column principle in colors which is employed in the Myers device.

OPEN LETTERS.

Forestry Legislation in Europe.

GERMANY.

I SHOULD like to know who first started the nursery-story, which has been propagated in the United States beyond extirpation, that paternalism in forestry is so rampant in Germany that the owner of forest property who cuts down one tree is obliged to plant two. Curiously enough, in Germany, where forestry is found in the highest state of development,—or perhaps just because of that condition,—laws regarding the use of private forest property are less stringent than among the other nations who have paid attention to the matter.

The various governments own and manage in a conservative spirit about one third of the forest area, and they also control the management of another sixth, which belongs to villages, cities, and public institutions, in so far as these communities are obliged to employ expert foresters, and must submit their working-plans to the government for approval, thus preventing improvident and wasteful methods. The principle upon which this control is based is the one we recognize when we limit by law the indebtedness that any community or town may incur. The other half of the forest property in the hands of private owners is managed mostly without interference, although upon methods similar to those employed by the government, and by trained foresters who receive their education in one of the eight higher and several lower schools of forestry which the various governments have established.

The several states differ in their laws regarding forest property. Of the private forests seventy per cent. are without any control whatever, while thirty per cent. are subject to supervision, so far as clearing and devastation are concerned.

In Saxony no state control whatever exists. In Bavaria, Baden, Wurtemberg, and other principalities, clearing without the consent of the authorities and de-

vastation of private forests are forbidden, and there are also some regulations regarding the maintenance of "protective forests"; but altogether the laws are not stringent.

In Prussia, which represents nearly two thirds of Germany, private forests are absolutely free from governmental interference. When, however, a neighbor fears that by the clearing of an adjoining forest his land may be injured, he can call for a viewing jury, and obtain an injunction against clearing, if such anticipated damage is proved. Since he has to bear not only the cost of such proceedings, but also any damage resulting from the interference, the law is rarely if ever called into play.

The government, either communal or state, can also make application for such a process in cases where damage to the public can be proved from a wilful treatment of a private forest.

From the fact that hardly 10,000 acres have in this way become "protective" forests, it may be gathered that the law has been largely inoperative.

The tendency on the part of the government has been rather toward persuasive measures. Thus, in addition to buying up or acquiring by exchange, and reforesting waste lands,—some 300,000 acres have been so reforested during the last twenty-five years,—the government gives assistance to private owners in reforesting their waste land. During the last ten years \$300,000 was granted in this way.

However, voices have called loudly for a closer supervision, and for extension of the control of the state over the use of private forest property.

AUSTRIA.

THE status of forest legislation is very different in Austria, where, with a larger proportion of mountainous territory, the results of the unrestricted free will of private owners are more severely felt. The country on

the Karst, along the Mediterranean, which was well wooded, well watered, rich, and fruitful, famous for its mild climate, has been changed into an arid, sterile plain, interspersed with stony and parched hillsides, the replanting of which was made well nigh impossible by opening the country to the hot, dry winds.

This and other experiences led, in 1852, to the adoption of a forest law by which is prescribed not only a strict supervision over the forests owned by communities, but also over those owned by private individuals.

Not only are the state forests (comprising less than thirty per cent. of the total forest area) rationally managed, and the management of the communal forests (nearly forty per cent.) officially supervised, but private owners (holding about thirty-two per cent.) are prevented from devastating their forest property to the detriment of adjoining. No clearing for agricultural use can be made without the consent of the district authorities, from which, however, an appeal to a civil judge is possible, who adjusts the conflict of interests.

When dangers from land-slides, avalanches, or torrents, are feared, and private owners cannot bear the expense of precautionary measures, the state may expropriate.

Any cleared or cut forest must be replanted or reseeded within five years; on sandy soils and mountainsides clearing is forbidden, and only culling of the ripe timber is allowed. Where damage from the removal of a forest belt which acted as a wind-break is feared, the owner may not remove it until the neighbor has had time to secure his own protection. That neglect in taking care of forest fires subjects the offender not only to fine, but to paying damages to the injured, goes without saying. In addition, freedom from taxation for twenty-five years is granted for all new plantations, and premiums are paid under certain circumstances. The authorities aid in the extinguishing of fires as well as in the fighting of insects.

Finally, to insure a rational management of forests, the owners of large areas must employ competent foresters whose qualifications satisfy the authorities, opportunity for the education of such being given in one higher, three middle, and four lower class forestry schools.

HUNGARY.

In Hungary also, where liberty of private property rights, and strong objection to government interference, had been jealously upheld, a complete reaction set in some fifteen years ago, which led to the law of 1880, giving the state control of private forest property as in Austria.

ITALY.

ITALY furnishes, perhaps, the best object-lesson of the relation of forest-cover and waterflow.

Though provincial governments had for a long time tried here and there to regulate forest use, the first comprehensive measure that recognized the urgent necessity of state interference was the law of 1877. An improved law was placed on the statute-books in 1888.

Under this law, the Department of Agriculture, in coöperation with the Department of Public Works and in consultation with the forestal committee of the province and the respective owners, is to designate the territory which for public reasons must be reforested under governmental control.

The owners may associate themselves for the purpose of reforestation, and for the purpose may then borrow money at low interest from the State Soil-Credit Institution, the Forest Department contributing three fifths of the cost of reforestation upon condition that the work is done according to its plans, and within the time specified by the government. Where the owners do not consent or fail to do the work, the department has the right to expropriate and reforest alone, the owners having, however, the right to redeem within five years, paying price paid together with cost of reforestation and interest. The department has also the right to restrict and regulate pasturage, paying, however, compensation for such restriction, and any other damage arising to the owner in the non-use of his property. It is estimated that over 500,000 acres will have to be reforested at a cost of \$12,000,000.

RUSSIA.

In Russia, until lately, liberty to cut, burn, destroy, and devastate was unrestricted; but in 1888 a comprehensive and well-considered law cut off, so far as this can be done on paper, this liberty of vandalism. For autocratic Russia this law is rather timid, and is in the nature of a compromise between communal and private interests, in which much if not all depends on the good will of the private owner. In this it reminds us of much of our own legislation, beautiful in theory, but a dead letter in practice, because its execution is left to those inimical to the laws. If we may trust reports, the law has so far had the very opposite effect of what it intended, owners, from fear of further control, slaughtering and devastating their properties recklessly.

A sharp distinction is made between "protective" and other forests. For the former the government at its own expense prepares plans of management, and relieves of taxation all such forests and new plantations. If expenses of reforestation become necessary, and the owner refuses to act, the government can expropriate, the owner having the right of redemption within ten years. The demarcation of protective forests and their control are placed under a forestry council, consisting of law-officers, officers of the general administration, and of the local forest administration. The owners, however, have much to say in the matter, the tendency being everywhere visible to obviate restriction of private rights on one hand and expenditure of the government funds on the other.

For private forests not classed as protective, the right to clear is to be dependent on the consent of the council, while too severe culling, or the cutting of proportionately too large quantities without regard to reproduction, is also forbidden, but the means for ascertaining infractions are not provided. If any devastation has taken place, replanting becomes obligatory, and the government forester may execute the planting at the expense of the delinquent owner. The foresters must also give to the owners advice concerning management free of charge; but since they are overburdened with the duties in the administration of the government forests, it is not likely that they will be able to superintend all that is demanded of them.

It should be added that the Imperial Bank loans for long time on forests well administered as a matter of encouragement to rational forest management, and the

government sustains four higher, seven middle, and thirteen lower forestry schools.

SWITZERLAND.

ALTHOUGH sporadic enactments of the cantons tending to check forest devastation are found as early as the thirteenth or fourteenth centuries, only with the beginning of the present century was the matter seriously taken in hand by the different cantons, when restrictive laws were passed. Owing to defects in these and to the lack of combined action, a federal law was adopted in 1876, which gives the federation control over the forests of the mountain region embracing eight entire cantons and parts of seven others, or over 1,000,000 acres of forest. The federation itself does not own any forest land, and the cantons hardly 100,000 acres, somewhat over four per cent. of the forest area, two thirds of which is held in communal ownership, and the rest by private owners.

The law is quite remarkable as illustrating the rational principles upon which this little republic works, maintaining close relation between the general and cantonal governments, very different from our ridiculous jealousies between State and Federal governments.

The federal authorities have supervision over all cantonal, communal, and private forests, so far as they are "protective forests"; but the execution of the law rests with the cantonal authorities, under the inspection of federal officers. "Protective forests" are those which by reason of elevation and situation on steep mountain-sides or on marshy soils, on the banks of brooks or rivers, or where a deficiency of woodland exists, serve as a protection against injurious climatic influences, damage from winds, avalanches, land-slides, falls of rocks, washouts, inundation, etc. The cutting in these forests is regulated so as to insure a conservative use, and to prevent devastation. Where needful reforestation is mandatory, the federal and cantonal government share in the expense, or may expropriate with payment of full indemnification to the owners. No diminution of the forest area within the established area of supervised forests is permissible, and replanting is prescribed where necessary; nor can township or corporation forests be sold without consent of the cantonal authorities.

The national government contributes from thirty to seventy per cent. of the cost for the establishment of new forests, and from twenty to fifty per cent. for planting in protective forests; where special difficulties in reforestation are encountered, or where the planting is deemed of general utility, the cantonal government assumes the obligation of caring for and providing improvements in the plantings.

The employment of educated foresters is obligatory, and to render this possible, courses of lectures to the active foresters are maintained in the cantons. There is also an excellent forestry school at Zurich.

FRANCE.

BEFORE the Revolution in France, the forest code of 1669 enjoined private owners to manage their forests upon the principles on which the government forests were managed, which was by no means a very rational management, according to modern ideas, yet was meant to be conservative and systematic. During the Revolu-

tion a law forbidding clearing for twenty-five years was enacted, and later laws, the most important of which are those of 1860, 1862, and 1882, establish the control of the state over all "protective forests," and make mandatory the reforestation of denuded mountains.

Not only does the state manage its own forest property (one ninth of the forest area) in approved manner, and supervise the management of forests belonging to communities and other public institutions (double the area of state forests) in a manner similar to the regulation of forests in Germany, but it extends its control over the large area of private forests by forbidding any clearing except with the consent of the forest administration.

The permit to do so may be withheld where public interest demands. Heavy fines follow any attempt at clearing such forests without permission, and the owner may be forced to replant. In addition to this, the reforestation of denuded mountain-slopes is encouraged, enforced, or directly undertaken by the government.

The encouragement consists in the granting of financial aid or of plant material in proportion to the general good resulting from the work, or according to the financial condition of the communities undertaking it. Wherever reforestation is made obligatory by decree on account of the condition of the soil and water-courses, and the danger of threatening the lands below, the general council and a special commission have a voice; the territory to be reforested, the plans of work, the time limit fixed for the same, and the amount of aid offered by the forest administration, are published. If the land belongs to communities unwilling or unable to reforest, the government may either expropriate or do the work alone, holding the land until it is reimbursed; this can be done by the cession of one half the land within a given time. If the land belongs to private owners who refuse or fail to perform the work, the state may also expropriate, allowing redemption within five years.

The government, if desired, or where success depends on it, superintends the planting, and also regulates the use of these protective forests afterward.

In order to gain the confidence and coöperation of the communities and proprietors, annual meetings were held in which the government agents explained the advantages and methods of reboisement, and discussed the local conditions and difficulties. These meetings proved of great usefulness in the cause of rational forestry. The education resulting from them, and the success of the reforestation work, had covered, in 1888, an area of about 365,000 acres, of which 90,000 were private and 125,000 communal property, the rest belonging to the state. The expenditure by the state has been \$10,000,000, of which about \$2,500,000 were for expropriations, and \$1,200,000 for subventions. The cost per acre for reforesting was somewhat less than \$10.00. It is estimated that 800,000 acres more are to be reforested, and an additional expenditure of \$38,000,000 is necessary before the damage done to the agricultural lands of eighteen French departments by reckless forest destruction will be repaired.

Shall the United States learn from these experiences? Shall we take advantage of these examples? How far may we utilize the methods indicated by them?

B. E. Fernow.

Goethe on Paper Money.

It is somewhat singular that in the struggle for a stable and honest currency which has been going on ever since our civil war, in the series of conflicts with greenbackers, silver inflationists, and Populists, we have seen no allusion to the admirable satire upon fiat money, "based on the undeveloped resources of the country," which is contained in the first act of the Second Part of "Faust." Goethe drew his material, of course, from the then comparatively recent performances of the Scotch financier, Law, in France; but he gave his parable a touch of universality which makes it in some ways curiously prophetic of the monetary insanities of our own time.

He significantly ascribes the invention of fiat money to the father of lies. Mephistopheles, who has undertaken to deliver Faust from ennui, brings him (immediately after the Gretchen episode) to the court of the emperor. The court jester is thrown into a trance, and Mephistopheles takes his place. The imperial ministers draw a gloomy picture of the state of the empire. The chancellor bewails the disregard of justice, the reign of violence and fraud; the chief commander complains of the disorganization of the army, largely due to the impossibility of paying the soldiers; the treasurer laments the emptiness of his coffers and the failure of the imperial credit; and the marshal protests his inability to defray the expenses of the imperial cellar. The emperor asks the new jester if he cannot add something to this dreary litany of complaints. Mephistopheles cheerfully remarks that the root of all the evils in the empire seems to be the lack of money, and there is plenty of that—underground. The emperor has, indeed, given away most of his rights, as the treasurer has already said, but the right to all buried treasure is still in the crown—and what a quantity of wealth must have been hidden away and forgotten in the centuries of war and anarchy since the first Roman invasions! He pledges himself to devise a means of making this wealth available.

In an ensuing mask, in which Faust is introduced as the god of riches, the emperor's signature is obtained to a note secured by all the buried treasure in the realm, and redeemable as soon as the said treasure is unearthed. The note is manifolded that very night (Mephistopheles seems to have invented printing for the purpose), and is issued in various denominations from ten to one hundred crowns.

The next day the ministers rush into the imperial presence with glad tidings: all loans have been extinguished, and the court is out of the claws of the usurers; all current bills have been met; the soldiers have received their arrears of pay, and are full of wine and loyalty. The emperor, who had not realized what he was doing, is at first angry at the supposed forgery of his signature, then mystified that his people will take these bits of paper for good gold; but so long as they do, he can hardly quarrel with the relief so opportunely afforded him. In the rest of the scene the effects of the sudden inflation of the currency are indicated in a remarkably vivid manner. The money-changers are taking the notes, and paying gold and silver for them—"with a discount, to be sure," but, still, they are taking them. Half the world is thinking only of revelry, the other (and better) half of new clothes, and everybody is cheering the emperor.

Mephistopheles, in praising the convenience of the new money, anticipates one of the stock arguments of the greenbacker: heavy purses and pouches are done away with; a scrap of paper is easily tucked away in a breast-pocket, in a love-letter, or between the leaves of a breviary. "Majesty will pardon me if, by entering into these petty details, I seem to make little of the great achievement." Faust interpolates a grave sentence or two on the advantage of utilizing undeveloped resources, and on the practical value of the imagination. The wealth on which the notes are based is boundless, and therefore the really profound mind accepts them "with boundless confidence." Mephistopheles reverts to his more practical point of view. The notes are not only handy, but they furnish a stable standard of value. All the trouble of haggling over the exchange of different kinds of coin is done away with. If any one wants metal, he can get it from the money-changers; if they hesitate, "one can dig awhile," auction off the cups and chains he disinters, redeem his notes for himself, and put skeptics and scoffers to shame. The people are rapidly becoming used to the new money, and will soon refuse to do without it. Jewels, coin, and paper will furnish an abundant medium of exchange, easily kept equal to the demands of the country.

The emperor is now seized with a spirit of prodigality, and begins to distribute notes to his courtiers, asking each what he means to do with the largess. He is somewhat disappointed to find that no spirit of enterprise is awakened, that no new social forces are set in motion. The squire, indeed, proposes to pay off his mortgages, a highly laudable intention; but the *bon vivant* proposes to live even better; the gambler's dice jump in his pocket; the miser will add the notes to his hoard. Human nature is just as human as ever, and its various manifestations are simply intensified.

At the end of the scene the old jester reappears, and begs for a share of the imperial bounty. The emperor tosses him paper to the amount of five thousand crowns, with the prophecy that he will use it foolishly, and leaves the stage. The jester incredulously asks Mephistopheles if this stuff has really money value. Mephistopheles tells him that he can eat and drink his fill with it. The jester persists with growing excitement: "Can I buy with it acres, house, and cattle? A castle with a forest, hunting, fishing?" Assured of this, he hurries off, exclaiming:

This very night in real estate I'll revel.

MEPHISTOPHELES (*solus*): Who longer doubts that our fool's head is level?

Verily, verily, there is nothing new under the sun.

Munroe Smith.

The Head of Sir Walter Scott.

THE "Journal" of Scott tells us scarcely anything new in the way of facts, but it has had the effect of setting his character in a new light, not so much by altering as by deepening our previous conception of it. But in all the close sifting of the man it has called out, I have seen no mention of the death-mask which, by some miscarriage of taste, disfigures the outer covers of the two volumes, one giving a front, the other a side view. A death-mask always has something of the