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PROPOSALS

FOR A

RURAL INSTITUTE.

Houses of the Oireachtas

PROPOSALS
FOR A
RURAL INSTITUTE,
OR
COLLEGE OF AGRICULTURE
AND
THE OTHER BRANCHES
OF
RURAL ECONOMY.

BY MR. MARSHALL.

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1799.

PROPOSALS

FOR A

RURAL INSTITUTE
GOVERNMENT

COLLEGE OF AGRICULTURE

IN 1877

AND THE OTHER BRANCHES

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ADVERTISEMENT.

IN 1777, after having given unremitted attention, during a course of years, to practical agriculture, and seen its defects among practitioners in general, I was led to the idea of establishing schools, or colleges, for its advancement; and sketched a Plan, for that purpose, in the digest of the MINUTES of AGRICULTURE.

In 1790, after having attentively surveyed the practices of professional men, of the higher orders, over the principal parts of the kingdom, and by this means seen, still more evidently, the probable utility of public seminaries, I again brought forward the proposal, and gave an outline of the plan, in the RURAL ECONOMY of the MIDLAND COUNTIES.

Since then, in the WEST OF ENGLAND, and in a SURVEY of the SOUTHERN COUNTIES, the advantages of a public institution have appeared in various points of view ; and some of them are incidentally noticed, in the respective registers of the practices of these departments.

And, in revising the MINUTES which arose from my own practice, in the SOUTHERN COUNTIES, other advantages presented themselves, and are pointed out, in the new edition just published.

Having now finished the general survey of the kingdom ; having practised in different parts of it ; and having, at length, published the superior practices of professional men, in each of its six agricultural departments, as well as my own practice, in four of them ;—the time is arrived, when I can, with propriety, lay before the public my proposals, at large, and say, without injury or risk to my general undertaking, that I am ready to enter on the difficult task of carrying the proposed plan into execution.

For, although it is my fixed intention to publish the GENERAL WORK, which has ever been my main design* (different parts of it being in a state of forwardness) the establishment, here proposed, will not tend to frustrate that design. On the contrary, an establishment, uniting theory and practice on a large scale, will assist, most effectually, to forward and complete the general intention.

Under the impression that a plan, which is calculated to secure to this island a state of permanent prosperity, cannot remain long unexecuted, by its present possessors, I shall continue to digest the unpublished materials that I have now by me, and to arrange those which I have hitherto published ; as well as to select the useful matter which other publications may afford : in order that the Institute, by having what is known, as well as what is wanted, brought into a state of

* See the prefatory address to the RURAL ECONOMY of NORFOLK.

reference, and the most comprehensive form of view, may set out with every advantage, and (under ordinary circumstances) ensure success.

LONDON, OCTOBER 19th, 1799.

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IN what is termed a state of nature, the wild woodland savage subsists on the natural products which the woods he inhabits provide him : he gathers fruits in due season, and contends, for animal food, with the other wild animals of the forest. And, like them, men destroy each other in fighting for the scanty produce: thus keeping down population to the natural standard of the supply of food.

In this state, the art military is the principal art of life: war and rapine are as essential to the existence of the species, in the savage state, as agriculture is, in a state of cultivated nature; and, judging from the prevailing politics of European

governments (which would seem to have been handed down, without due examination, from the state of savage nature) civilized nations are not yet aware of the change which the condition of mankind has undergone,—have not yet discovered that agriculture, not war, is become the proper mean of apportioning the supply to the demand.

1
Traffic
The first step toward civilization is traffic—bartering the natural products of one country, or district, for those of another.

2
Manufacture
The next is manufacture ; thereby improving the use and value of natural productions.

These, however, are low steps ; raising mankind not much from the level of savage nature : the state of population being thereby little increased ; though, in condition, it may be somewhat improved.

3
Pastoral
The pastoral life succeeds. This, by increasing the number of animals of food, and lessening that of beasts of prey, in-

creases population, and still farther meliorates the condition of the species.

But, yet, the state of the human species is little better than that of other gregarious animals; they still wander in families or tribes, over unreclaimed wilds, and are still liable to the attacks of ferocious animals; population being, even in this state, inconsiderably advanced.

It is the art of reclaiming wild nature, in every part,—it is the art of agriculture, taken in its largest sense,—by which the state of mankind is meliorated, both in number and condition.

By freeing the soil from whatever is unprofitable to the species, and furnishing it with productions (whether vegetable or animal) which are applicable to their wants,—thus uniting cultivation with the pastoral employment,—not only the necessities of an increased population are produced, but an increase of materials for manufacture and commerce are provided; in this manner conducting agriculture,

manufactures, and commerce, on a firm basis,—rooting them in the soil,—and interweaving them with each other ;—thereby uniting in one interest the inhabitants of a country.

This is the broad and firm basis of POLITICAL ECONOMY ;—the only permanent foundation of civilized nature,—and that on which the Chinese nation have rested many thousand years, in, perhaps, as high a state of civilization and prosperity, as *permanently* belongs to human nature. A nation, who proceed under the guidance of this principle, are treading the firm ground of their own country ; and continue to increase in population, until its full extent of produce be attained.

On the contrary, whenever a nation, negligent of their own territory, have given way to the lust of conquest, and the colonization of *distant* countries, and, under the pretexts of commerce, have become freebooters, and dealers in every thing that debases the human charac-

ter, though they may have blazed out, for a while, dazzling the world with their splendor, like other freebooters, their reign has been short, and their ruin certain. The history of European nations, for the last two thousand years, is little more than a melancholy detail of the effects of this mad principle of government.

THE UTILITY of a public seminary of agriculture will, perhaps, be thought too evident to require to be explained: for if public seminaries of language have assisted in diffusing the principles of grammatic learning, and promoting literary pursuits, and if the public universities have tended to promote the interests of general science, establishments of a similar tendency, it may be inferred, will as assuredly promote the advancement of agriculture.

England, at present, does not produce a supply of food for its own inhabitants; while a considerable portion of its lands

may be said to lie, virtually, in a state of waste ; and while the parts, which are now in cultivation, are under-productive ; by reason of defective practices ; arising from a want of the improvements of which, even, the best practices of the present day are capable.

Within every one's recollection,—but a very few years past,—this island experienced little less than actual famine,—even under the present flourishing state of commerce : and the country is of course liable to a return of the calamity,—even under the meridian influence of a full-blown commerce. What evils, then, may not be expected, when the bubble bursts ! and the agriculture of this small speck of earth shall have the deluded victims of half the world's commerce to support.*

* This was written before the present more earnest threats of famine were perceptible ; and at the moment when the commerce of this island stood on tiptoe, eying all the world, and claiming it as her own!

Even under the circumstances which must, in the ordinary course of things, take place,—when the present ferment shall subside,—when ingenuity may exert itself, in safety, and industry be every where protected,—when the constellation of inventors, to whom this country principally owes its present commercial splendor (a phenomenon which may never shine, again, in *this* country) shall have passed away, and their inventions be spread over Europe,—this country cannot longer expect to hold more than its proportional share of commerce;—with some additional advantage, which its natural situation as an island may give it, and which it ought of right to claim. By vainly grasping at the whole! the whole may be lost.

It is not the splendor of any particular period, or the transitory views of men who happen to be invested with temporary power, that can be regarded, in founding the lasting prosperity of a nation. It be-

hoves the proprietors of a country, (of any country)—men to whom the territory, as property, belongs—men who have a PERMANENT INTEREST in its welfare,—to exert themselves in matters of political economy, if not in those of government,—to look to the foundation of their house, if not to its management.

BUT, trusting not to general argument, let us take an analytic view of the proposed institution, and point out its utility, more particularly, by examining it, in the separate characters of—

1. A place of instruction, for pupils.
2. ——— Improvement for initiated students.
3. ——— Science, and general information, for both classes.
4. ——— Experiment, and general improvement.
5. ——— Dissemination of every part of the art and science.

1. AS A SCHOOL, ACADEMY, OR PLACE
OF INSTRUCTION, FOR NOVICIATE PUPILS.

—Every other art, mystery, and profession has the means of gaining initial instruction. Trade, and the lower branches of law and physic, are taught in apprenticeships, and clerkships,—the higher branches, at the universities; while the art of agriculture,—more valuable, if not more difficult, than the rest united,—has been left to accidental tuition. Formerly, if a young man happened not to be educated on the farm of his father, no common road of instruction lay open to him. Of late years, it is true, pupils, by paying suitable acknowledgments, have been admitted to the practice of professional men, in some particular parts of the kingdom. But, even in the districts where this has been the case, there are few men, who are at once sufficiently qualified for the undertaking, and willing to be encumbered with young men of that description.

If the MILITARY ACADEMY of Woolwich has been useful to Engineers, and the

ROYAL ACADEMY of London to Artists ; so assuredly may the RURAL ACADEMY, here recommended, be rendered serviceable to Agriculturists, and to husbandmen of every description.

2. AS A PLACE OF PRACTICAL OBSERVATION, AND IMPROVEMENT, FOR INITIATED STUDENTS.—A young man who has been bred to trade seeks improvement, after he has finished his apprenticeship, in the shops, warehouses, or counting houses of the metropolis ; or goes abroad for instruction.

The apothecary, in like manner, repairs to the capital, and finds, in the hospitals and infirmaries, the required improvements, in physic and surgery ; by being admitted into the wards and theatres of these medical institutes.

The attorney, after his clerkship is ended, gains admission to the practice of a town solicitor, and in the courts of Westminster-hall acquires a practical knowledge of his profession ; returning to his district with his mind improved,

beyond what his private tuition had been able to furnish it with.

And young men (of some education and suitable expectancies) bred to agriculture, will, with equal certainty, find improvement in the practical establishment here proposed : where they may see the several branches of the rural practice conducted, with every advantage which the existing state of the art is capable of affording ; and where they will enjoy a free communication with men of their own profession ; and have an opportunity of hearing the various topics agitated, and each point discussed : thus eradicating the weeds of prejudice ; and, by this advantage alone, receive ample recompense, for their time and expences.

3. AS A PLACE OF SCIENCE,—WHEREIN TO DEMONSTRATE THE PRINCIPLES OF THE ART, AS WELL AS TO TEACH ITS ASSISTANT SCIENCES.—Have the lectures delivered by the anatomist, the chymist, and the physician, been useful to the

healing art? or those delivered in the universities, and elsewhere, to general science?

It is true, an illiterate rustic, who never entered a college of agriculture, can *farm*: and so can he *converse*, though he never went to school. Just so a village doctor,—though he never walked the hospitals, nor attended the theatres, laboratories, and lecture rooms of science,—can practise physic,—and with a certain degree of success. But why, in difficult cases, call in the physician? Because he has taken a more comprehensive view of the subject, and is better acquainted with the principles of the art itself, as well as with its assistant sciences; and has been habituated, in medical institutes, to more general and accurate practice.

The same illustration involves law and divinity. A mere country-bred attorney can deal out law, and a field preacher divinity: yet law and divinity have long been taught in public institutes: and I

appeal to the two benches, whether collegiate education is, or is not, beneficial to these professions.

A fisherman, or coaster, can grope along the shore he was bred upon ; but blown out to sea, he is left to the mercy of the elements : while the scientific navigator can cross the widest ocean, or sail round the world, with confidence and moral certainty ; though he has no other pilot than science to direct him. The coaster can hand the sails and guide the helm : but the educated sailor can do more ; for he has studied the principles of his art, and the assistant sciences on which they rest—astronomy, geography, and the theory of navigation ; and has moreover studied the courses, bearings, soundings, and professional remarks, of those who have gone before him.

4. AS A PLACE OF EXPERIMENT AND GENERAL IMPROVEMENT.—In this character a Rural Institute would excel other establishments of a similar nature. Practice

and theory, art and science, would not only be intimately united, on a large scale ; but the subject of agriculture is such, that experiment has unlimited scope,—may be prosecuted and extended at will, without injury or risk. In the healing art, (which has more affinity than any other to agriculture) the subject of experiment is the human body.

Viewing an Institute of Agriculture in no other light than that of a theatre of experiment, and a seminary of practical improvements, an hundred thousand pounds a year (if it could not be conducted with less) might be expended upon it, with sound policy. There is no hope of attaining the higher stages of improvement (especially in what relates to the growth and general economy of vegetables, including their food, and the operation of manures) without a public establishment. A single improvement, annually, might repay the nation, ten-

fold, for the expences of that which is here proposed.

The millions that have been recently expended on the islands of New Holland, and St. Domingo, are in the greatest part lost to this nation ;—with scarcely the most distant hope of any return being made for them : whereas the few thousands which are required for the improvement of *our own* island, will remain wholly within it ;—with a fair prospect of return, for the portion of labor, which the prosecution of its improvement may incur. The risk is small,—the chance of gain incomparably great.

5. AS A PLACE OF DISSEMINATION.—Improvements in physic and surgery are disseminated by the hospitals, infirmaries, or medical institutes,—not of the metropolis only, but by those which are now dispersed over almost every part of the country ; and new maxims, in law, are promulgated, by the whole body in circuit : while agriculture grovels on, in

ignorance, or is left to the mere accidents of communication. Practices of a superior kind have been carried on, for centuries, without having travelled out of the districts in which they have been struck out, or adopted. See the practices of YORKSHIRE, WEST OF ENGLAND, MIDLAND COUNTIES, &c.

Whenever it shall take place, that each agricultural department shall be furnished with a subordinate establishment, and the leading men of the profession,—the superior managers who take the lead in their respective neighbourhoods—shall be attached to them, as honorary assistants,—the whole kingdom will become systematized, and useful information be thrown into continued circulation; collected from every part to the center, and impelled from thence to every atom of the system.

At present, and until educated pupils be dispersed, this desirable purpose will be best promoted, and rendered most ef-

ficacious, by a dissemination of managers, workmen, implements, superior varieties of farm crops, and breeds of domestic animals. And to this end, the central establishment, *now proposed*, will, under the following regulations, be found of incalculable advantage, and produce immediate effect.

1. By opening books for the several classes of managers and workmen, who are candidates for employment, as well as for employers, who require their assistance, both may be readily accommodated; while many valuable practices will, by this easy method, be disseminated.

If this regulation be extended to tenants who want farms, and to proprietors who wish to improve the management of their estates, by bringing upon them men of skill, from well managed districts, its benefits will be greatly increased.*

* Those who have experienced the difficulty of procuring farm stewards, and tenants, from districts

2. By a repository of implements, that are now in use, in the several departments of the kingdom, systematically arranged, so as to shew the comparative merit of each, with a manufacture of those of superior merit, by workmen of superior skill, and tested on the spot, that they may be warranted by the institute,—every part of the kingdom may be reciprocally furnished with the more valuable utensils of the other,—as well as with such improvements, varieties, or new species, as the institute, and individuals, may from time to time discover.

3. By collecting and cultivating the best varieties of each species of agricultural crops, by improving these varieties, and by bringing into cultivation fresh species, any part of the kingdom may be easily supplied with superior kinds ; and by keeping open registers of such other

whose practices are preferable to those of their own, will be best able to appreciate the advantages which are likely to arise from the proposed regulation.

superior kinds as are produced by individuals, in the different departments, the community at large will be still more generally benefited.

4. By drawing together the most valuable breeds of the different species of live stock, or domestic animals, by improving these breeds, and by opening registers for the valuable breeds of individuals in every part of the island, the general improvement of the various species will, with moral certainty, be promoted.

Thus, even as a PLACE OF INTELLIGENCE, an institution of the nature of that which is here proposed, will be found highly useful.

HAVING thus seen, in various lights, the probable utility of the proposed institution, let us now take a nearer view of the place itself, and the establishment it is proposed to contain. In doing this, however, it will be unnecessary to descend to minutiae. For, if the foundation

be firm, and the outlines justly drawn, study and perseverance will supply the rest.

On dividing the kingdom into agricultural departments, and viewing the various circumstances, which will operate on the establishment in view, there appears to be only one situation, in which it can with strict propriety be placed. This is near the center of three given points ;—the metropolis, and the two universities. For this situation will not only bring it within a moderate distance (a day's journey) from each of these places ; but will also bring it sufficiently near the center of the six departments, that, in the event of provincial schools being hereafter established, the metropolitan institution will most readily communicate with them, and render complete the organic system which has been mentioned.

It so happens, however, that the central point of these places falls in a passage

of country, which is unfitted, by nature for the intended purpose ; and a more northward situation is more central to the kingdom ; and the soil and climate are, there, better adapted to the general intention.

There are reasons why the collegiate establishment, now proposed, should be situated near a town ; and there are, perhaps, only two near which it can be placed, with accuracy. These are Newport and Northampton. The latter is more central to the kingdom : but the former would be more convenient for those who are most immediately interested in the success of the institution ; namely, men of fortune who reside in town, during the spring months,—the most interesting season of agricultural operations. And, in the outset of the establishment, nothing could give it greater celebrity than their attentions.

The extent of the lands, which are requisite to an institution of this nature, is

not necessarily confined to any precise number of acres. I have in another place,* mentioned five hundred acres ; and a possession of that extent, will be fully sufficient, at the outset.

The characteristics, with respect to soil, subsoil, surface, elevation, &c. ought to be varied. But it would be in vain to dwell on these particulars : as it is not probable, that a parcel of land, minutely answering to any arbitrary, nicely drawn plan, can be obtained. The situation must first be chosen, and the best that it affords be procured. Or, if the best situation furnish not a suit of lands, appropriate to the intention, it must be changed for another. It is the institution, viewed in the aggregate, which is the main object : not any particular plot of ground, in a precise situation. Perseverance in search will, doubtless, discover one, that will sufficiently answer the purpose.

* See MIDLAND COUNTIES, Sect. FARMERS.

The plan of the establishment, with respect to the *lands*,—admits, in the outline, of no alternative. They will require to be divided, as their given circumstances shall point out, into two parts. The larger division to be laid out as a common farm ; and to be managed on the best plan of established practice :—as a school, or academy, for initiating pupils ; and as a place of observation, and improvement, for students in general ; agreeably to the outline already submitted.

The other division of the lands to be appropriated, particularly, to improvements : to experiments, in every branch of the art, and every principle of the science ; as well as to prove, by repetition, newly discovered practices,—whether by the institute, or by others,—before they be admitted into the school of practice, or recommended to public adoption.

The *buildings*, requisite for the practical farm, will be a convenient suit of

farm offices ; such, perhaps, as the given premises may afford ; or these, with some suitable improvements.

But those of the collegiate farm will be numerous and expensive. The principal, the professors, their assistants, workmen, and laborers of every class, as well as pupils of every degree, will require to be accommodated, on or near the spot. And, for the accommodation of boards, and committees, as well as of gentlemen, and strangers in general, who may occasionally visit the institution, a house of entertainment, of the first class, should be provided. Contiguity to a town would render these provisions the less necessary ; though, perhaps, in any case, proper.

Also a repository of implements, &c. &c. and a manufactory of such as require to be distributed. Also lecture rooms, a library, an elaboratory, a veterinary, botanic garden, nursery ground, &c. &c. all of which ought to be raised, progres-

sively, as they shall be wanted : beginning with what is most required ; and proceeding, with even, firm, and deliberate steps, until the whole be completed in the most suitable manner.

The PROFESSORS, which long deliberation on the subject has suggested, and which the nature of the rural science requires, are these :

1. Professor of agriculture : under whose immediate management the operations of the two farms should be united ;—that no jealousies or contentions may take place, between the old and the new husbandry,—orthodoxy and innovation : he having a capable assistant, to superintend, under his directions, and frequent eye, the practical farm ;—with other experienced men, to assist him in conducting the operations of experimental agriculture ; also in the construction of implements ; registering the weather, &c. &c.

The lectures in this department should turn on,

The plan and general management of farms.

The operations of agriculture, and the implements in use.

The various crops in cultivation.

The management of grass lands.

The breeds and management of live-stock.

The management of servants and beasts of labor.

The calculation of the chances of the weather.

The business of markets.

Farm accounts, &c. &c. &c.

2. Professor of fossilogy, and of agricultural chemistry :—to teach the analysis of soils, waters, and manures : and to assist in experimental agriculture.

3. Professor of botany, and of the vegetable economy :—to teach the identity of plants, their structure, habits, and modes of growth and subsistence ; and

to prove, by experiment, their natural qualities, as food of the several species of domestic animals ; in order to ascertain which of them are objects of culture, and which of extirpation :—a subject that requires great and continued exertion. Native plants that are now neglected may, thereby, be found valuable ; and exotics of known value may, by persevering art, be reconciled to this climate.

4. Professor of farriery, and of the animal economy :—to teach, by living subjects, the outward form, the texture of the flesh, the constitution, habits and modes of subsistence, of the different species of domestic animals,—by dissections and preparations, their inward structure and general economy,—and, by operations, medicines, and applications, direct the cure of the diseases to which they are severally liable : also the shoeing of working animals ; guarding every description from insects, and ac-

cidents ; and teaching, in general, the prevention, as well as the cure, of diseases.

5. Professor of Mechanics : to teach the laws of nature, and the mechanic powers, as they relate to the human frame, as well as to that of brute animals of labor, and to implements and tools of every description : to explain their manners of operating : and to assist in superintending their construction.

6. Professor of Estates :—whose department will be ample, and task severe ; to him it will belong to teach—

The appropriation and inclosing of wastes.

The reclaiming of wild lands ; by clearing, draining, &c.

Laying out estates into woodlands, and farms.

Surveying and mapping.

Valuing farm lands.

Letting them ; conditions of leases ; and treatment of tenants.

Lessons on business, and accounts.

The rudiments of law, as they relate to landed property :

Those of architecture, as they relate to farm buildings.

The forming of roads.

Raising and preserving hedges ; and

The propagation and management of woodlands.

This department, alone, may well fix the attention and support of every man of large landed property : as capable managers, and accurate management, will necessarily grow out of it : and their heirs, at least (if they should not deem it fit to attend, themselves, to the instructions it will infallibly disseminate) may imbibe principles of conduct, which will render them what every large proprietor of lands ought to be—affluent and respected ; especially by his tenants ;—whose comforts in life depend more on the government of the estate they live upon, than on that of the country in which it is situated. And it is

with a view to the good harmony, and reciprocal advantages, of proprietors and their tenantry, and of course, to the consequent amelioration of the lands in which they are mutually interested, that I make choice of the proposed situation, for the center of the establishment: in order that while young men of fortune, or fair expectancies, relax from the studies, or the restrictions, of a college, they may have (even as visitors) an opportunity of receiving impressions, that may improve their incomes, and diffuse happiness over their estates.

To guard against misapprehension, it will be right to remark, here, that the several professors should be practical men, rather than men of science; except the professor of chemistry, who ought to be well grounded in the sciences, and acquainted with modern discoveries. Thus the professor of plants should be a well educated gardener,—not a mere botanist; that of animals,—a well educated

farrier—a veterinary pupil—not a mere naturalist: and that of mechanics, an educated artist—not an abstract mathematician. Those of agriculture and of estates should be men who have been bred to these professions.

All that is wanted from philosophy and the sciences, is a sufficiency of theory to assist practice. It is not so much the investigation of abstract principles that is required, as the application of those which are known.

For these, and for other reasons, it would be improper to attempt lectures, at the outset of the institution: perhaps not within the first three years: during which time, the several professors would be the most profitably employed, in studying their respective subjects,—in reading authors who have written on them,—in proving what is asserted,—and developing what is unknown; as well as in attending lectures, on relative subjects:—thus forming the ground-

work of instruction, and, at the same time, gaining some knowledge of the art of delivering public lectures.

To give unity to the institution, and efficiency to its several branches, a superintendent will be requisite : one who has a competent knowledge of the general subject : one who is familiarly acquainted with the practice of agriculture : not in any particular district, only ; but in every department of the kingdom ; and, this, without partiality to any one : having his mind free for unbiassed choice ; and being thereby enabled to select, from the several practices at present established, those which are *best*, and fittest to be emplantad in the minds of the pupils, and students, who shall apply for instructions.

The superintendent should likewise be enured to experimental agriculture, and should have a competent knowledge of the several sciences that are requisite to its assistance. He should, moreover, have

an extensive knowledge of landed property, and the various branches of its management, as well as a practical knowledge of the propagation and management of woodlands.

And let no man attempt to *establish* an institution of this extensive nature, who has not been accustomed to plan, and to execute his plans with some success, and who has not been in the habits of arranging practical men, of different arts and employments, so as to reduce them to one connected whole, and to shift his attention, from one branch or department to another, without embarrassment, and with equable advantage to the different parts.

After the institution has been duly established, and the connexion and dependencies of the several parts have been ascertained, by practice,—and their movements rendered even and smooth, by habit,—the greater difficulties will be passed ; and the professor of agricul-

ture, or of estates, will aptly succeed, from time to time, as principal.

IT NOW REMAINS to point out the leading steps which will be required to be taken, in carrying the proposed plan into execution.

The first is, to lay a permanent foundation ; to secure, before any other step be taken, a fund to defray the expences, for at least ten years.

The second, to procure a proper site.

The third, to engage professors, their assistants, and workmen of superior skill.

The fourth, to plan, to adjust, to bring into the fittest course of management, and to stock, the lands, both of the practical and the experimental parts. And

The fifth, to plan and erect the requisite buildings*.

* I refrain from detailing, here, the minor steps that are requisite to be taken, in the early progress

These operations, if properly conducted, will employ the first two or three years; during which time, as has been observed, the professors will be employed in preparing to fill, with due effect, their several offices.

Hence, it would be imprudent, if not in a degree impracticable, to receive pupils, in the first three years; though any person might be permitted to inspect the preparations. And hence the propriety of fixing a term certain of ten years; as, in less time, the establishment cannot be expected to reach its full effect.

FINALLY, with respect to the expences of the proposed establishment,

of the establishment. I have examined them with attention, and have sufficiently ascertained the connexion and dependencies of the several parts to be able to say, with confidence, that I believe the entire plan is practicable, and that I consider myself equal, (under ordinary circumstances) to the superintendence of its establishment.

they will of course be proportionate to the scale on which it may be conducted.

The outset expence will, doubtless, be considerable : the buildings, apparatuses, collections, and furniture, together with preparing and stocking the lands, will require an ample fund. Ten thousand pounds, laid out with discretion, and on the lowest scale of expence, will, I conceive, be found sufficient.

The annual expence will depend much on the salaries of the different officers employed, and on the spirit with which the whole may be carried on. Three thousand pounds, a year, might be rendered equivalent ; if liberally conducted, five thousand, I apprehend, will be required.

The whole expence, for ten years, may be set down at £.50,000, or £.5,000, a year.

If the annual expence be compressed within £.3,000, the whole will amount to £.40,000, or £.4,000, a year.

It may, I trust, be safely suggested, that the public utility will be in proportion to the money *judiciously* expended.

Houses of the Oireachtas

THE RURAL ECONOMY OF ENGLAND.

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