THE SPECIMENS OF PAUL DIETRICH GISEKE IN THE EDINBURGH HERBARIUM

IAN C. HEDGE

INTRODUCTION

Several years ago in the herbarium at Edinburgh, a number of 18th century specimens attracted interest both because of their unknown origin and the apparent connection some of them had with Linnaeus and other leading botanical figures of his time. There were no old herbarium records or correspondence to give any kind of clue about the origin of the collection and the only way to trace its provenance was to start indexing the information from the labels of the specimens which were (and still are) scattered throughout the general herbarium. When this basic information, mostly concerning dates and places, was assembled, it was then a question of making a short leet of potential candidates and gradually eliminating them until the originator of the collection was traced. Most of this work was completed a few years ago and although much came to light, much still remained obscure. Nothing was then published in the hope that further information would be found that would enable a more complete picture to be presented. However, relatively few additional facts have emerged and so, despite the gaps, the uncertainties and the possible misconstruing of evidence, a general account of the collection is now appropriate.

The label information, which usually gave the date and locality of the specimens, soon suggested that a German-speaking botanist, connected with the main botanical centres throughout Europe, was involved. With a total time range of from 1764 to 1792, the early specimens, from 1764 to 1767, were almost all collected in or near Göttingen. One of the early clues was provided by a more or less chance reference to a short account in the Hannover Magazin for 1765 by J. C. P. Erxleben. In this, he described a short botanical excursion at Whitsun 1765 in the company of Murray, Büttner and six others, to Bad Sooden and Meissner. One herbarium specimen was found—*Crataegus oxyacantha*—collected on the 29th May 1765 (Whitsun) at Gross Schneen which is about 10 km south of Göttingen on the road to Bad Sooden. It seemed a fair assumption that this *Crataegus* was collected by one of the participants in this Whitsun excursion. As to who of the party of nine had collected the specimen, it was possible to rule out Erxleben, Murray and Büttner as their names occurred on other labels as donors of specimens and therefore the field narrowed to one of the other six. Because Murray and Büttner were on the staff at Göttingen University, the probability was that the collector was a student at Göttingen at this time. After a number of blind leads into possible student collectors in 1765, P. D. Giseke was considered and it turned out that his period of study at Göttingen, his subsequent European tour after graduating and his eventual post at Hamburg tallied exactly with the information extracted from the labels. However, it was not until three specimens were found which on the reverse side of the labels bore the signature "Dr. Giseke" (see plate 2) that there was any concrete

evidence in his favour. Giseke's signature, at the end of what is apparently a pharmaceutical prescription, agrees well with the more formal handwriting of the labels (see plates 1 and 2).

Although there was fairly convincing evidence regarding Giseke's own part in collecting these specimens, the origin of numerous specimens with labels not in Giseke's handwriting remained uncertain. On the labels of these specimens, the names of Linnaeus, Vahl, Osbeck, Thunberg and Murray, to mention some of the best known, occur as donors—e.g. "dedit d. Dr. Vahl, Häslof". In addition, there are numerous specimens, with labels similar to those just mentioned, from the gardens at Uppsala, Paris and Göttingen (see plate 2). The date of these herbarium sheets is usually between 1776 and 1781—that is, within the span of Giseke's own life and within the date range of specimens directly attributable to him. For reasons given later in this account, it is believed that all these specimens were given to Giseke by his friends and associates throughout Europe and formed part of his herbarium during his lifetime.

It is uncertain whether the two thousand specimens or so that have been found* constitute the whole of Giseke's herbarium or only a fragment of it. For somebody with as many contacts throughout Europe and who amassed specimens for almost thirty years, two thousand seems a fairly small total. There are, too, some slightly surprising omissions—there are no specimens of the genus *Gisekia* (Mantissa 2: 554, 1771) which Linnaeus named in honour of his pupil and no specimens which connect with Giseke's own botanical work such as the 'Icones Plantarum'. For these reasons and from the little that is known about the fate of Giseke's herbarium after his death (see page 00), it seems possible that Giseke's collection was once considerably larger than it is now.

Although none of the specimens has proven to be a type, there are a number, chiefly those connected with Linnaeus, Osbeck and Thunberg, which are either potential candidates or else are very early representatives of particular species. The chief interest of the collections is, however, the insight it gives into one aspect of botany in the latter part of the 18th century.

P. D. Giseke: his life and work

Paul Dietrich Giseke was born on the 8th of December 1741† in Hamburg where he spent his childhood and youth before going to study medicine at Göttingen. The first twenty years of his life coincided with a period of almost continual warfare throughout Europe and there must have been few places not affected, directly or indirectly, by the two major conflicts of the time. One concerned the continued rivalries of Prussia and Austria; the other, Britain and her maritime competitors France and Spain. Between them, the conflicts had gradually engulfed most of Europe in war and it was not until 1763 that the fighting stopped. In that year were signed the Peace of Paris that ended the British war and the treaty of Hubertusburg that ended the Seven Years' War. Gradually Europe returned to a less turbulent period

* Doubtless there are many specimens still in the herbarium that have not yet come to light.

† 1745 according to Meusel (1804).

Plate 1 Specimen of *Convolvulus tricolor* from the Giseke herbarium dated 1765. Göttingen Royal Garden.

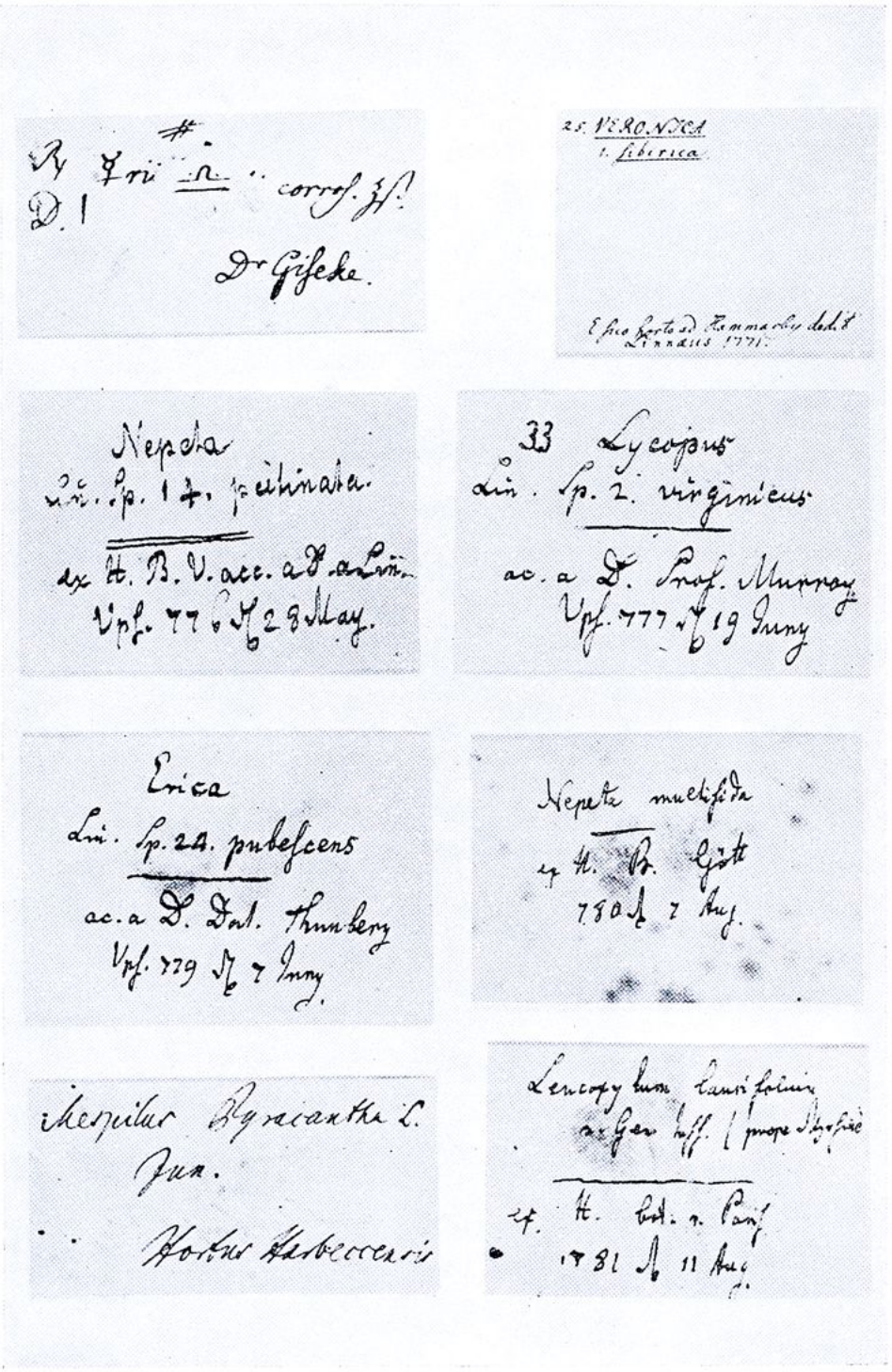

Plate 2 Left to Right

(1) Signature of Dr. Giseke.
(2) Label of *Veronica sibirica*, given by Linnaeus at Hammarby in 1771. Giseke's handwriting.
(3) Label of *Nepeta pectinata*, dated 28 May 1777. Possibly Adolf Murray's handwriting.
(4) Label of *Lycopus virginicus*, dated 19 Jun. 1777.
(5) Label of *Erica pubescens*. Specimen from Thunberg, Uppsala 7 June 1779.
(6) Label of *Nepeta multifida*. Specimen from Göttingen Royal Garden, 7 Aug. 1780.
(7) Label of *Mespilus pyracantha*. Specimen from Hortus Harboec. Handwriting possibly of J. P. Du Roi.
(8) Label of *Leucoxylum laurifolium*. Specimen from Paris Botanic Garden, 11 Aug. 1781.

and the academic life of the universities once more flourished. When Giseke entered Göttingen University in 1764, the first full year of peace, it had already established itself as an important centre of learning. Founded in 1737 by George II (who had been on the British throne since 1727), its most dynamic personality in those early days was Albrecht von Haller who, *inter alia*, was the first professor of Medicine and Botany and the founder of the Royal Göttingen Academy of Sciences. This brilliant and turbulent man of many interests built up the Royal Göttingen Botanic Garden and, during his tenure of office, it became one of the major gardens in Europe. His lectures were famous and drew students to Göttingen from many parts of Europe. Göttingen's fame in botanical history might have been even greater had Linnaeus accepted the chair of Botany which was offered to him in 1739: but Linnaeus refused the offer. After Haller had returned to his native Switzerland in 1753, David S. A. Büttner* was appointed to the chair of Botany, which he held till his death in 1768. He had to contend with the twin misfortunes of being Haller's successor and, for most of his time, the almost continual war in Europe. Interested in a natural classification of plants and a teacher of Linnaeus' ideas and methods, David Büttner, as Giseke's professor, probably had considerable influence over the young student. Another strong influence was another Büttner—Christian William (no direct relation of David) —who was director of the Göttingen Botanic Garden from 1760–1768. Although the garden at this time was much less rich than it had been in the halcyon days of von Haller, it still must have contained a large number of interesting plants as is evident from the numerous specimens that Giseke collected there. C. W. Büttner was a man of many interests. Primarily a linguist, he had travelled widely throughout Europe; he spent some time in Edinburgh in 1736, learning Gaelic, then went to Dillenius at Oxford and from there to Leiden where for six months he shared a room with Linnaeus. When eventually he settled at Göttingen, he gave a course of lectures on natural history and took his students on regular excursions in the neighbourhood of Göttingen, such as the one that has already been mentioned. Another person whom Giseke came in close contact with during his years at Göttingen was Johann Andreas Murray, also an early convert to Linnaean thought and, with the two Büttners, responsible for the strong Linnaean influence at Göttingen. He became Professor of Medicine in 1764 and was director of the Royal Garden from 1769 till his death in 1791.

Giseke received his doctorate of Medicine on 3rd November 1767. During his studies, his chief interest had been botany and this is emphasised by the route of his post-graduate Grand Tour. In March 1768 he was with Jacquin at Vienna and from there he went to Berne where he joined up with one of Haller's protégés, J. J. Dick. Previously, Dick had been a tutor to von Haller's children and a keen collector for Haller's work on the Swiss Flora 'Historia Stirpium Helvetiae inchoata'. Dick was a fellow student at Göttingen with Giseke and in the middle of June, they travelled together in the Bernese Oberland collecting at Lauterbrunnen, Grindelwald and near the glaciers of Gastertal. In July, Giseke was at St. Leger and Paris and in August he arrived in England where he stayed visiting Kew, Oxford and Birmingham, till June 1769. He concluded his tour by visits to Brussels, to van Royen in Leiden, and to Paris. On his return to his home at Hamburg in late summer

* Linnaeus commemorated his name in the genus *Buettneria*.

1769, he continued his studies of medicine there till 1771 when he spent the spring and summer with Linnaeus at Uppsala. Together with Vahl, Edinger and Tislef, he attended a series of lectures by Linnaeus who aired his recent thoughts on "Classes of Plants". By this time, Giseke, a young man of twenty-six, had become one of the ageing Linnaeus' favourite pupils. Over the years, there was a close connection between the two and although no letters from Linnaeus to Giseke have been traced, sixteen letters from Giseke to Linnaeus are known (at the Linnaean Society in London). The correspondence started shortly after Giseke graduated at Göttingen, and continued till the last years of Linnaeus' life. During his stay at Uppsala, Giseke acquired herbarium specimens both from Linnaeus himself and the gardens at Uppsala and Hammarby. In late 1771 he returned to Hamburg and took up his appointment as librarian and Professor of Physik and Poetry at the Hamburg Gymnasium. Here Giseke continued his studies for the subsequent twenty-five years. Although with many other duties to perform and living in a less active botanical centre than, for instance, Göttingen, Giseke nevertheless maintained his botanical interests and his contacts with botanists throughout Europe for the rest of his life.

The aspect of botany that interested Giseke most was a classification in which related taxa were grouped together in families i.e. a break-away from the artificial method of the Species Plantarum where the grouping of the taxa was dependent on stamen number. In 1769, shortly after Giseke had produced his dissertation 'Systemata Plantarum recentiora', he sent a copy to Linnaeus asking him for the characters of natural families. Linnaeus' reply was, "I confess I cannot give such".

However, this was the subject on which Linnaeus lectured in 1771, to, among others, Giseke. The 'Praelectiones in Ordines naturales' published in 1792, edited by Giseke and largely, though not entirely, a reproduction of these lectures, was compounded from notes made by J. C. Fabricius in 1764 and Giseke in 1771. Some of the taxa defined in the 'Praelectiones' such as the Papilionaceae and Compositae are still used; others such as the Umbellatae (Umbelliferae) and Caryophylleae (Caryophyllaceae) have had their nomenclature slightly modified. Most of Giseke's publications listed below, were concerned with various aspects of 'natural orders' but little of his work was of an original nature. One of his few essays into original work was the description in the 'Praelectiones' of several new genera in the Scitamineae. These genera were not based upon the examination of actual specimens but on the descriptions written in India by König. These had been published by Retzius who records in a letter, quoted by Giseke, that König's specimens had been lost in a shipwreck. Because of the absence of specimens these genera described by Giseke are almost impossible to typify. Giseke's efforts in this difficult family drew forth the following unflattering comments from Sir J. E. Smith, who, in a letter to William Roscoe, said:

> "The most unfortunate attempt relative to the genera of the Scitamineae was made by Giseke in his edition of the lectures of Linnaeus upon the natural order of plants . . . This writer working with other people's materials and destitute of practical experience boldly undertook to new-model the whole order. But as Gulliver's mathematical tailor of Laputa, having made a mistake in the beginning of his calculations

brought home a whole waggon load of clothes, so Giseke, setting out on erroneous principles has presented us with a rambling waggon-load of new hard-named genera, dismembering the old ones not only by insufficient characters but by characters that do not exist and establishing new ones with as little scruple or success".

Giseke's edition of the Praelectiones was the most important work of his years at Hamburg and today it is his strongest claim for a small niche in botanical history.

His death, on the 26th April 1796 at the age of 55, occasioned another piece of unfriendly wit—this time from Caspar Voght. In a letter to Sir J. E. Smith in 1797, he wrote,

"Dr. Giseke is gone over to another world where I hope he will not be punished for his plagiarisms and hasty productions in this".

Although it is true that almost all Giseke's work was of a derivative nature and that he, like many post-Linnaean botanists, shone only by reflected light, he was, nevertheless, one of that early band of Linnaean disciples whose efforts did much to spread the ideas and beliefs of the master.

A full list of Giseke's publications (excluding those of a non-botanical nature i.e. poetry and medicine) is as follows:

i. Dissertatio inauguralis . . . sistens Systemata Plantarum recentiora instar speciminis commentarii ad J. H. Furstenau desiderata materiae medicae. VI, 54 p. Göttingen 1767.

ii. Icones plantarum . . . adjectis nominibus Linnaeanis edit. P. D. Giseke, J. D. Schulze, A. A. Abendroth, N. J. Buek. Hamburg 1777. (Only fasicles i–iv consisting of a 100 coloured plates were published).

iii. Index Linnaeanus in Leonhardi Plukenetti Opera botanica . . . Index Linnaeanus in J. J. Dillenii Historiam Muscorum etc. x, 46 p. Hamburg 1779.

iv. Linnaeus. Termini Botanicii . . . Recudi curvait primos cum suis definitionibus interpretatione Germanica donatos Paulus Dietericus Giseke XIV, 219 p., Hamburg 1781.
A second edition was published in 1787.
(This work is compiled in part (pp. 1–16) from the Genera Plantarum, 1737, in part (pp. 17–105) from the Termini Botanici, 1762, with addenda from the Systema Vegetatilium (13th edition by J. A. Murray) accompanied by a German translation on the opposite page, whilst the remaining portion was extracted from the last named and the Genera Plantarum—*Soulsby* 1933).

v. Theses Botanicae in usum auditorum typis exscriptae, 51 p., Hamburg 1790.

vi. Linnaeus. Praelectiones in Ordines naturales Plantarum. E. proprio et Jo. Chr. Fabricii . . . msto. editit Paulus Diet. Giseke. li, 662 p. Hamburg 1792.
(The 'Mappa' of the Praelectiones, cited separately by Pritzel, 1872, as though an independent publication, is dated 1789).

The Contents of the Giseke Herbarium

Cited under the following two headings are specimens of special interest either because of their historic interest, such as the early specimens from the gardens at Kew and Oxford, or else because of their possible connection with type material as is the case with some of the specimens given by Linnaeus, Osbeck, Vahl, Thunberg and others. Under a third heading, specimens of uncertain date and provenance are discussed.

In listing the specimens, little attempt has been made to check the identifications which, in some cases, are clearly wrong. Where there have been changes of determinations either due to misidentification or nomenclatural change, the new names are given in brackets. Where appropriate, the authorities for the species, not given on the labels, have been added except in doubtful cases.

1. *Specimens directly attributable to Giseke*:

Plate 1 shows a typical Giseke specimen and label. On sheets of rather thin paper, c. 37 × 22 cm the specimens are not glued down but attached by thin strips of glued paper; the labels are c. 10 × 8 cm. Before the genus and species name are the numbers used by Linnaeus in Systema Natura; the earlier specimens have the numbers of the 10th edition, those of later years, those of the 12th edition. These Giseke sheets, dating from 1764 till 1794, follow the same format throughout the years. The greatest number of specimens—over 400—were collected while Giseke was a student at Göttingen (1764–1767). A substantial number were gathered during his Grand Tour but after his return to Hamburg in 1770 the number of Giseke (format and handwriting) sheets drops away fairly sharply.

Kew Gardens (between 2 Oct. 1768 and 22 June, 1769)

Alyssum deltoideum
(= *Aubrieta deltoidea*)
Ambrosia artemisifolia
Antirrhinum triphyllum
(= *Linaria triphylla*)
Atragene alpina
(= *Clematis alpina*)
Bignonia unguis
Borrago orientalis
Buphthalmum aquaticum
Campanula hederacea
Capraria salicifolia
Cenchrus racemosus
Centaurea pullata
Clematis crispa
Cyclamen europaeum
Draba aizoides
Dracocephalum grandiflorum
(= *Calamintha grandiflora*)
Erigeron viscosum
(= *Inula viscosa*)
Erinus alpinus
Fritillaria longifolia hillii
Gladiolus undulatus
Helianthus strumosus
Hernandia sonora
Hypericum
Illecebrum arabicum
(= *Paronychia capitatum*)
Jatropha urens
Lepidium bonariense
Narcissus bulbocodium
Ornithogalum pyrenaicum
(= *O. nutans*)
Origanum sipylaeum
Passiflora laurifolia
Poterium spinosum
Quercus coccifera
Randia mitis
Sanicula marilandica
Scabiosa graminifolia
Scabiosa ochroleuca
Thapsia villosa
Veronica virginica

OXFORD GARDEN (between 28 April 1769 and 17 May 1769)

Anchusa tinctoria
Chrysanthemum frutescens
Convolvulus lineatus
Euphorbia characias
„ *hyberna*
„ *lathyrus*
Geranium rotundifolium
Lamium garganicum
„ *orvala*
Lepidium latifolium
Leucojum autumnale
Marrubium pseudodictamnus
Narcissus odorus
„ *triandrus*
Fritillaria sp.
Fumaria lutea
„ *sempervirens*
Genista germanica
Geranium fuscum
„ *phaeum*
Narcissus trilobus
Ornithogalum pyrenaicum
Phyteuma comosa
Polemonium reptans
Ranunculus gramineus
Symphytum tuberosum
Scilla amoena
Scrophularia betonicaefolia

Specimens collected at Brussels Garden (c. 12 dated 20 July, 1769) and at Leiden (c. 50 dated Aug./Sept. 1769) are not cited.

UPPSALA AND HAMMARBY. Summer 1771

Ammania latifolia L.	ex h. Upsal.	
Anemone cota	„ „ „	
„ *dichotoma L.*	„ „ „	
Angelica verticillaris L.	„ „ „	(= *Peucedanum verticillare Spreng.*)
Artemisia maderaspatana L.	„ „ „	
Bacclaris dioscoridis L.	„ „ „	(= *Pluchea hirsuta Less.*)
Bidens frondosa L.	„ „ „	
Buphthalmum spinosum L.	„ „ „	(= *Pallenis spinosa Cass.*)
Conyza cinerea L.	„ „ „	
Cornus suecica L.	dedit Linnaeus	
Coreopsis auriculata L.	ex h. Upsal.	
Dalechampia scandens L.	„ „ „	
Erigeron obliquus L.	„ „ „	(= *Blumea bifoliata DC.*)
Fumaria nobilis L.	dedit Linnaeus	(= *Corydalis nobilis Pers.*)
Geranium maritimum Burm. f.	ex h. Upsal.	
Gladiolus augustus L.	e suis Capensibus dedit Linnaeus.	
Hyoscyamus scopolia L.	ex h. Upsal.	(= *Scopolia carniolica Jacq.*)
Inula bifrons L.	„ „ „	
Ocimum polystachyon L.	„ „ „	
Protea divaricata ? L.	ex herb. Linnaei	
Rumex dentatus L.	ex h. Upsal.	(= *R. maritimus L.*)
Spilanthes oleracea L.	„ „ „	
Teucrium massiliense L.	„ „ „	
Tropaeolum hybridum L.	ex horto Upsal.	
Tussilago alpina L.	ex herbario Lapponico dedit Linnaeus	(= *Homogyne alpina Cass.*)
Trifolium incarnatum L.	ex h. Upsal.	
Veronica sibirica L.	e suo horto ad Hammarby dedit Linnaeus	
Xeranthemum imbricatum L.	ex dono Linnaei (= *Helipterum canescens DC.*)	

After 1771, the number of specimens directly attributable to Giseke is small. The names of Schulze, Abendroth and Buek, his co-editors of 'Icones Plantarum', occur on labels as donors.

2. *Specimens not directly attributable to Giseke.*

Included under this heading are the specimens with labels not in Giseke's handwriting and with a different format from that shown on plate 1 (see Plate 2). Whereas the labels in the previous heading were homogeneous, those included here are considerably more varied. There are two reasons for associating them with Giseke: in most cases, the mounting paper used is the same as Giseke's and, in a few instances, Giseke's handwriting

appears on the sheets. Most of the specimens are attached by glued strips of paper but there are a number on smaller sheets of paper (of a stronger texture and c. 32 × 20 cm) that are glued down. The size of the labels is generally c. 5·5 × 5·5 cm (Plate 2). Whose handwriting it is that occurs on most of the labels is unknown. The tentative conclusion reached about these specimens is that they were sent to Giseke, either as gifts or in exchange, by his colleagues throughout Europe.

Listed in alphabetical order are the more important donors together with the specimens they gave; this is followed by notes on some of the gardens whence specimens originated.

BERGIUS, PETER JOHAN. Pupil of Linnaeus and professor of Natural History and Pharmacy at Stockholm. The specimens have labels bearing only the legend "acc. a D. Prof. Bergio, Stockh. 4 Jany. 779".

Convolvulus althaeoides L.
,, soldanella L.
Rhamnus lineata L.
Saururus cernuus
Spiraea chamidrifolia
Xeranthemum virgatum Berg.

HELLENIUS, CARL NICLAS. Pupil of Linnaeus, professor at Abo. The labels state "acc. a D. Mag. Hellenio, Upsala (Jan.–Mar.) 777".

Cliffortia ruscifolia L.
Dracocephalum sibiricum L.
(= Nepeta macrantha Fisch.)
Protea conifera ? L. pallens
,, purpurea L.
Spartium complicatum L.

MURRAY, ADOLF. It seems that a large number of specimens in Giseke's herbarium were given to him by Adolf Murray over a period of several years starting in 1776. His name 'Prof. A. Murray' occurs on many labels as a donor and there are an even larger number of specimens without mention of his name that may also have come from him.

Adolf Murray, younger brother of J. A. Murray, was born in Stockholm on 13 February 1751. Showing an interest and ability in natural science and medicine at an early age, he studied under Linnaeus while he was still in his teens and later completed his medical studies in 1772 when he received his doctorate of Medicine from Uppsala University. He then spent almost four years travelling widely in Europe from the Netherlands to Italy and Hungary*. He visited Strassburg, Paris, Vienna, Prague, Florence and Göttingen where he had a prolonged stay. On his return journey to Sweden, he visited Giseke at Hamburg in 1776. In May of the same year he returned to Uppsala to take up his appointment (made in his absence two years earlier) as Professor of Anatomy. He died on 5 May 1803 at Uppsala.

Although he did not apparently publish any botanical works, he must have been keenly interested in botany for most of his life. His personal contacts with Linnaeus must certainly have been close; he first studied with him when he was only fourteen and later, after his return home from his long European tour, he was probably a fairly regular visitor at Hammarby. Linnaeus wrote to J. A. Murray at Göttingen on 8th May 1776 that he

* His comprehensive diary of this European journey is kept at the University Library, Uppsala. Part of A. Murray's correspondence is also kept there; the Murray family papers are housed at the library of the Royal Academy of Science, Stockholm.

(Linnaeus) was daily expecting his brother Adolf "who has just returned from Germany". The connection between Adolf Murray and Giseke is less certain but it appears that after their meeting in 1776, Murray regularly sent him herbarium specimens from Uppsala Botanic Garden and Hammarby. It seems significant that none of the A. Murray specimens are dated before 1776.

A. Murray's own herbarium, either collected or named by him, is mentioned in two notes by the late Dr. Uggla (1952 and 1957). Now kept at the Naturhistoriska Riksmuseet, Stockholm, it contains about 800 Swedish plants and a neatly written catalogue. At least three different kinds of handwriting occur in the catalogue and on the herbarium sheets. Although Dr. Uggla identified the handwriting on some of the Edinburgh putative Murray specimens as that of Adolf Murray it does seem that there is an element of doubt about this.

The following specimens with a label format illustrated in plate 2 were given by Linnaeus in May and June 1776. This was shortly after Adolf Murray had returned from his European tour and his visit to Giseke at Hamburg.

Epidendrum pusillum L. Pl. Surinamensis (= *Oncidium pusillum* (*L.*) *Reichb. fil.*)
Mimosa entada L. Pl. Surinamensis
Nepeta pectinata L. (= *Hyptis pectinata*)
Ornithogalum minimum L. (= *Gagea minima Ker-Gawl.*)
Phlox divaricata L.

Dated between 1776 and 1779, the following have labels inscribed "acc. ex H.B.U." (Hortus Botanicus Upsaliensis) and no further information. It is assumed that they were sent to Giseke by Adolf Murray.

Allium scorodoprasum L.
Aloe perfoliata L.
Amaranthus sanguineus L.
Arum triphyllum L.
(= *Arisaema triphyllum* (*L.*) *Torrey*)
Bunias orientalis L.
Cacalia sonchifolia L.
Celastrus buxifolius L.
Celosia polygonoides Retz.
Celsia arcturus Jacq.
Chenopodium hybridum L.
Chrysanthemum bipinnatum L.
(= *Anthemis tinctoria L.*)
Chrysanthemum indicum L.
(= *C. coronarium L.*)
Chrysocoma graminifolia
(= *Solidago lanceolata L.*)
Cimicifuga foetida L.
Conyza bifrons L.
Cynoglossum appeninum L.
Cyperus iria L.
Digitalis minor L.
Dipsacus laciniatus L.
Erigeron gouanii L.
(= *Conyza sp.*)
Euphorbia portlandica L.
Fraxinus americana L.
Hedysarum maculatum L.
(= *Desmodium gangeticum* (*L.*) *DC.*)
Hedysarum virginicum L. ?
Hibiscus simplex L.
Hyacinthus cernuus L.
Melissa nepeta L.
(= *Calamintha nepeta* (*L.*) *Savi*)
Mesembryanthemum crassifolium L.
,, *stipulaceum L.*
,, *tenuifolium L.*
Papaver nudicaule L.
Polygonum dumetorum L.
Verbena supina L.
Veronica multifida L.

Those with labels "ac. a D. Prof. Murray Ups." (see plate 2), and dated between 1776 and 1778 are:

Alyssum montanum L.
Allium nutans
Angelica lucida L.
Arabis canadensis L.
(= *Diplotaxis muralis*)
Aretia helvetica
(= *Androsace sp.*)
Aristolochia pistolochia L.
Betula rotundifolia n. sp. ex Newfoundland Banks (= *B. nana L.*)
Bombax ceiba L.
Bupleurum ranunculoides L.
Caucalis latifolia L.
Cistus albidus L.

Cistus umbellatus L.
Croton palustris L.
Daphne alpina L.
Gentiana acaulis L. var.
Glycine tomentosa L.
Hydrocotyle americana L.
Isopyrum thalictroides L.
Lepidium perfoliatum L.
Linum alpinum L.
Lycium capsulare L.
Lycopus virginicus L.
Myosotis nana ? Vill. segueiri
Ornithogalum narbonense L.
Passiflora minima L.
Pedicularis comosa L.
Prunella hyssopifolia L.
Salsola muricata L.
Salvia pomifera L.
„ *serotina L.*
Thesium alpinum L.
Uvularia amplexicaulis Mill.

MURRAY, JOHANN ANDREAS. Although there are no specimens at Edinburgh that are certainly attributable to J. A. Murray, it is appropriate to summarise briefly what little is known about his herbarium because he was the author of many new species, most of which are difficult to typify. A pupil of Linnaeus, a teacher of Giseke at Göttingen, where he worked from 1760 till his death in 1791, J. A. Murray was director of the Royal Göttingen Garden from 1769 till his death and a major botanical figure in his day who might well have succeeded Linnaeus at Uppsala in 1778. It is known that his herbarium came to Britain in the early part of the 19th century and was in the possession of George Hibbert who subsequently presented it to the Linnaean Society. In 1863, however, an auction of dried plants was held and among those that came under the hammer were fifteen bundles of J. A. Murray's plants. Some probable fragments of his herbarium are still at the Linnaean Society (Savage 1937) but the fate of the main part is unknown. Although there are a considerable number of specimens at Edinburgh from the Göttingen Garden (see page 00) dating from J. A. Murray's time, some of which have the name 'Murray' on them, only three examples of species described by J. A. Murray have been found:

Carex echinata, l. ex palude Elfdalensi in Dalecarlia 1778.
Leonurus crispa—ex L. Buek, 1791
Thlaspi ceratocarpon—d. d. Nevck (spelling uncertain).

OSBECK, PEHR. Pupil of Linnaeus. Spent four and a half months collecting in China during a voyage that lasted from 1750 till 1752. Many of his botanical results were incorporated into the first edition of Linnaeus' Species Plantarum. The labels dated July 1779 read "d. D. Osbeck, Haslöf".

Acanthus spinosus L.
Aspalathus chenopoda L.
„ *verrucosa L.*
Borbonia cordata L.
Campanula n.s. Thunb. (porosa Thunb.)
Chironia linoides L.
(= *C. baccifera L.*)
Cinna arundinacea L.
Diosma lanceolata L.
Elephantopus tomentosa L.
Erica comosa L.
Erica inflata monsoniana
„ *peniculata L.*
„ *physodes L.*
Ixia alopecuroides
Mesembryanthemum glaucum L.
Ononis umbellata L.
Osteospermum polygaloides L.
Roëlla ciliata L.
Spartium sepiarium L.
Xeranthemum variegatum Berg.
(= *Helipterum variegatum DC.*)

THUNBERG, CARL PETER. Pupil of Linnaeus: succeeded Linnaeus' son in the chair of botany at Uppsala. Travelled and collected in the Cape of Good Hope on a long journey that took him to Java, Ceylon and Japan. The labels usually read "acc. a D. Prof. Thunberg" (see plate 2,) often with "ex Cap. B. Spec." added.

Cacalia pinnatifida Linn.
(= ? *Senecio bipinnatus Less.*)
Elegia nov. gen. Rotboel sp. juncea L.
Erica pubescens L.
Hemimeris montana Linn. f.
Lobelia coronopifolia L.
Montinia
Psoralea an spicata ? L.
Phylica parviflora Berg.

VAHL, MARTIN. Attended the 1771 summer lectures of Linnaeus together with P. D. Giseke. Professor of Botany at Copenhagen. On the labels is "acc. D. D. Vahl, Haun."

Anemone vernalis L.
Aphyllanthes monspeliensis L.
Cordia myxa Forsk.
Lithosperumm angustifolium Forsk.
Mesembryanthemum geniculiflorum Forsk.
Passerina hirsuta L.
Varronia bullata L.
(= *Cordia globosa H.B.K.*)

ALTDORF GARDEN. There are several specimens from the botanic garden at Altdorf (spelt Altorf on the labels). One of the old German universities founded in 1623, but dissolved in 1809. J. A. Murray was offered the chair of botany in 1765 but refused.

GÖTTINGEN ROYAL GARDEN. The numerous specimens collected here by Giseke in his student years have already been mentioned but there are also a considerable number dating mostly from 1779 and 1780 which may have been sent by J. A. Murray to Giseke. A specimen label is illustrated on plate 2.

HARBKE GARDEN. Harbke was the private estate of a certain von Weltheim during the latter part of the 18th century. Situated about 3 miles south-east of Helmstadt, it was developed as an arboretum by Johann P. Du Roi, a doctor at Brunswick. Specialising in N American trees and shrubs, an account of its contents was published in 1771 by Du Roi. Some of the relatively few Hortus Harboecensis specimens at Edinburgh, presumably given to Giseke by Du Roi, are *Rosa virginiana*, *Prunus virginiana*, *Ptelea trifoliata* and *Lonicera caerulea*. It is of interest that in the bundle of putative J. A. Murray plants at the Linnaean Society (page 00) there are several from the Harbke garden with similar labels to those at Edinburgh (see plate 2).

PARIS BOTANIC GARDEN. Usually with characteristic blue labels, there are over 100 specimens dated 1781 which are marked "ex. h. bot. Paris". Many of them bear Jussieu's name on the label. (see plate 2).

Other Donors of Specimens

The more important sources of specimens have already been mentioned but there are, in addition, numerous other names that occur on the labels; some of them occur a few times, others only once. Including some where the handwriting is difficult to decipher and where the spelling may consequently be wrong, they are in alphabetical order:—

Abendroth, Afzelius, Allioni, Alm, Amman, Amstel, ? Aromeyerus, Brandelius, Buek, Büttner, Colledon, Dahl, de la Chenal, Desfontaines, Dick, Erhardt, Erxleben, Ferber, Forster, German, Gesner Jo., Girdanner, Glendenberg, Greenway, Groschke, Grün, Haken, Harrer, Herbetinger, Hensler, Hubberd, Kaefemacher, Lemmersdorf, Ludwig, Meerburg, Metius, Moldenhawer, Moldenk, Montbret, Montin,

Mygind, Newberry, ? Nevck, Ortega, Panzer, Reichardt, Richter, Riiling, Rozier, Scheuchzer, Schultze, Schwarz, Schwenke, Seip, Shenkrauz, Soubriet, Stromeyerius, Tribolet, Weber, Weiss.

3. *Undated Specimens in the collection.*

In addition to the main core of the specimens where in most instances there is mention of either place, name or date, there is also a loose fringe of specimens without much information other than the name. There are, for example, some sheets with pre-Linnaean names (some with the specimens emerging from ornate vases) that may bear, in Giseke's handwriting, the Linnaean name. Their provenance is quite unknown. There are also many specimens with only a Linnaean name. Most of them are unimportant but special mention must be made of three specimens. Two of them bear the characteristic Linnaean 'HU' at the base of their stems. One of them has merely this mark and, in Giseke's handwriting, *Conium rigens L.*; the other with the 'HU' also has, in Linnaeus' hand, "papilionacea"—this specimen is a close match of the type of *Tradescantia papilionacea* in the Linnaean herbarium (= Cyanotis cristata (L.) D. Don—see Rao, 1965, p. 85). Although both probably were in Linnaeus' own herbarium at one time and subsequently in Giseke's, they are not type material. The third specimen of special interest is a good specimen of *Salvia paniculata* L. with only the name on the standard type Giseke label. This S African species was described by Linnaeus in the Mantissa. The type of *S. paniculata* was examined in the Linnaean herbarium and very closely matches the Giseke specimen, suggesting that as this is a very variable species, the two specimens might have had a common origin.

Conclusion

The foregoing account probably covers most of the general aspects of the collection but there are still several problems as yet unsolved. The chief of these is how the collection arrived in Edinburgh. It is known that, not long after Giseke died, his herbarium was in London. A translated extract from Archiv für die Botanik in 1801 states, "The late Professor Giseke's large herbarium has been sold for 40 Louis d'or. The buyer has given it to a certain Madame Ross of London who is said to have much knowledge in Botany. Herr Dreves has purchased 20 packets with duplicates from Giseke's effects. It is thought that the latter has the better bargain . . ." Of Dreves, who lived in Hamburg and died in 1816, little information has been traced and there are apparently no signs of Giseke material currently at Hamburg. Madame Ross, who seemed to be the link full of promise has gradually faded away into anonymity. The backgrounds and interests of several ladies of that name were investigated but none of them had any clear interests in botany or connections with Edinburgh. If the information given in Archiv für die Botanik is correct, one can only assume that either Madame Ross or Dr. Dreves or their successors presented the collection to Edinburgh University or to the professor of Botany at some time in the early part of the 19th century.

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Addendum

Since the foregoing account was prepared, information has come to light, concerning some Giseke specimens in the National Herbarium of Victoria, Melbourne (MEL). I am most grateful to Mr. A. B. Court of Melbourne* for drawing my attention to this and for supplying the details given below.

The total number of Giseke specimens at Melbourne is somewhere in the region of fifty. Many of them have labels with exactly the same format as illustrated in Pl. 2. To date, all have been Cryptogams, none Phanerogams; in this respect, it is interesting that, in Edinburgh, no cryptogamic specimens of Giseke or his associates have yet been found. Examples of Giseke sheets at Melbourne are " *Fucus serratus*—e mari baltico, m. Apr. 1771"; "*Asplenium ruta-muraria*—e vallo Goetting. 1765"; "*Acrostichum septentrio-*

* Currently, Australian Botanical Liaison Officer at Kew.

nale—e vallo urbis Goett. Dedit Dr. Weiss 1765". On some of these specimens there has been written by O. W. Sonder "Herbar. Prof. Gieseke, (*sic*), Hambg." In addition to these typical Giseke sheets, there are also a number of specimens with a different label format and in different handwriting. For instance, the handwriting on the label "III Annulata (Filicales), 9.1 *Asplenium Trichomanes* L." is uncertain although it is similar to some Edinburgh specimens of uncertain provenance; as with the previously cited labels, "e Herbar. Gieseke" has been added at a later date. Another speicmen has, attached to a label in the latter style, a smaller label identical with that illustrated in Pl. 2 and bearing the legend "*Polypodium exaltatum*, ac. a D. Prof. Murray, Ups. 1777, 19 Juny". Against the last-named label has been added 'Ehrhart' implying that the label was in his hand.

Unlike the unsolved problem as to how the Giseke plants reached Edinburgh, the position with regard to those at Melbourne seems much clearer. Ferdinand von Mueller, the first director of the Melbourne Herbarium was born in Rostock and, before he left Germany, became a devoted friend of O. W. Sonder (1812–1881), who in turn was a friend and pupil of J. G. C. Lehmann (1792–1860) also of Hamburg. Lehmann's herbarium at the time of his death contained about 70,000 sheets and there is no doubt that he acquired many specimens from botanists of the generation before him. Almost the whole of Sonder's herbarium (except the main portion of his South African collection now at Stockholm) is at Melbourne and there are strong indications that perhaps as much as 10% of Lehmann's herbarium is there also. It seems reasonable to assert that the Giseke specimens in the Melbourne herbarium were in Lehmann's possession before they were acquired by Sonder.