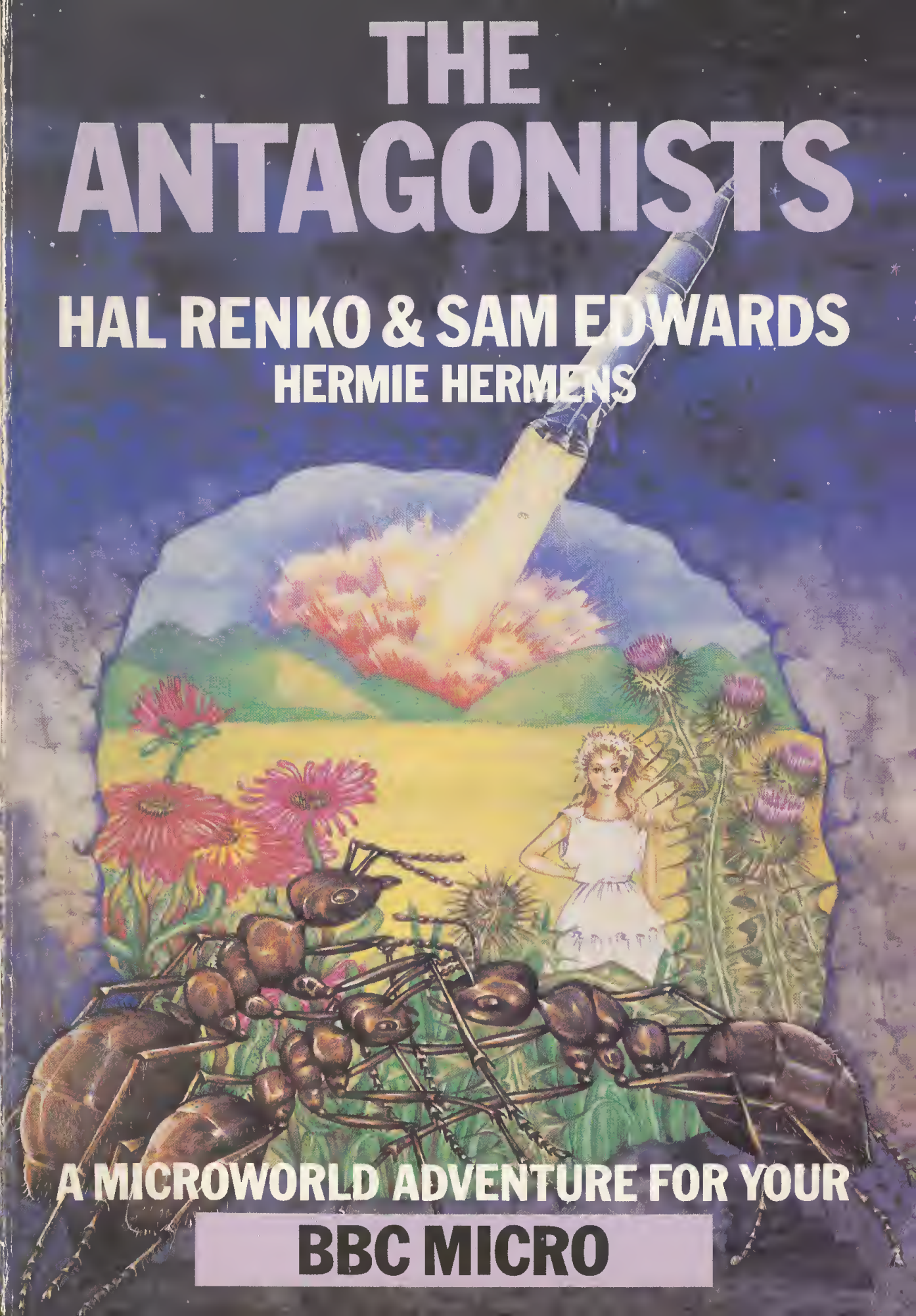
THE ANTAGONISTS

HAL RENKO & SAM EDWARDS
HERMIE HERMENS



A MICROWORLD ADVENTURE FOR YOUR

BBC MICRO

The Antagonists

A Microworld Adventure for Your

BBC Micro

SYSTEM REQUIRED

Microcomputer: BBC model B

The Antagonists

Hal Renko & Sam Edwards

Hermie Hermens

Addison-Wesley Publishing Company

WOKINGHAM, BERKSHIRE · READING, MASSACHUSETTS · MENLO PARK, CALIFORNIA
DON MILLS, ONTARIO · AMSTERDAM · SYDNEY · SINGAPORE · TOKYO · MEXICO CITY
BOGOTA · SANTIAGO · SAN JUAN

Have you found it difficult to type in the programs for this adventure game correctly? Then you may be interested to know that the software for this and the other two adventure games in this series, **The Secret of Arendarvon Castle** and **The Seventh Generation**, are available through your bookseller or direct from:

Addison-Wesley Publishers Ltd.
Finchampstead Road
Wokingham
Berkshire RG11 2NZ

Design and Art Direction by Bert Vanderveen Design.
Illustrations by Betty van Spijker and Bert Vanderveen.
Typeset by RCO Van Setten.
Printed in Great Britain by Hazell Watson and Viney Limited, Member of BPCC.

British Library Cataloguing in Publication Data
Renko, Hal
The Antagonists, A Microworld Adventure for Your BBC Micro.
1. Computer games. 2. BBC Micro Microcomputer – Programming.
I. Title. II. Edwards, Sam. III. Hermens, Hermie.
794.8'028'5404 GV1469.2
ISBN 0-201-15734-9

Library of Congress Cataloging in Publication Data
Renko, Hal, 1944 -
The Antagonists, A Microworld Adventure for Your BBC Micro.
1. Antagonists (Game). 2. BBC Microcomputer – Programming. 3. Basic (Computer program language).
I. Edwards, Sam. II. Hermens, Hermie. III. Title.
GV1469.25.A56R462 1985 794.8'2 84-24509
ISBN 0-201-15734-9

ABCDEF 898765

Introduction

You are about to enter a new world, the world of adventure gaming. But this is no ordinary adventure game. This is the world of **The Antagonists.**

The Antagonists is an exciting new approach to adventure gaming: you are not alone! Instead of being left in the dark, not knowing whether LEFT or RIGHT will lead to treasure or trouble, you have at your side a collection of documents and details, pictures and practical guides. The program, complete with error-detecting check digits, instructions on loading the game and notes on the commands available are given at the end of this book. So, with the information given at the beginning of the book, you have a complete adventure game in one volume.

The information in this book starts with entries taken from the diary of Albert Renshaw, the last survivor of Mother Earth.

In a world dominated by insects and ruled by the ants, he knew there must be a way of escape, a particular "object" that would be his key to freedom. He never found that "object" but he knew it was guarded by the ants.

To complete this adventure successfully, you must find out what the "object" of the game is.

The entries in Albert Renshaw's diary are of the greatest importance in achieving this. By studying them carefully, you will be able, for example, to determine which part of the game you are in at any given moment.

Renshaw also collected together bits and pieces of information that he felt were essential in making his escape. The various documents he accumulated follow the diary entries.

They are not strictly related but by reading through them carefully, you will find all the information necessary to make a successful bid for freedom. However, it is advisable to keep this book with you at all times in your adventure.

Don't try to memorise the information like Albert Renshaw. Look what happened to him!

So, without further ado, it is time for you to meet **The Antagonists.**

From Albert Renshaw's Diary

31st December

TOMORROW is New Year's day ... 2356 AD ... or could it be the day after tomorrow? I don't know, and what's the difference anyway? Perhaps it would have been better if people had never learned to count at all. In that case we would not be familiar with the notion of passing time, and would only be able to distinguish the dawning of a new day. Only the rhythm of day and night (and, of course, the seasons) would show any variation in time.

Perhaps the animals that used to inhabit the earth were aware of the seasons. Of course migratory birds and hibernating animals must have been. Or they did rely on instinct as a faithful counsellor in situations where logic would have been useless. Animals must have had a sense of direction, because by scent trails, for example, they could let others know where food was to be found. But a sense of time ... ? Could an animal indicate, for instance: "Tomorrow, when the sun reaches its zenith, you must be at the waterfall in the forest"?

Strange, really, that I should think about animals at all, now that most species are extinct. Who would ever have thought that insects, especially ants, would conquer the world? True, many distinguished scientists had sounded a warning note. But on the other hand just as many simply laughed at the very idea, or claimed that man's ingenuity would always enable him to overcome any threat.

Science can indeed lead one this way or that. Every new theory seems destined to become the matrix for a totally different

one, and I can only conclude that something has gone completely wrong with science. I believe this is due to the different disciplines mixing too much. Until the Middle Ages, there were only a limited number of disciplines, which together seemed to form an orderly whole. After 1900 AD, however, things gradually became worse.

Physics, mathematics and chemistry seemed at first to be reasonably well defined, but what of vague disciplines like universal science, paedo-sociology and psycho-motorial behavioural sciences? Or disciplines introduced in about 2000 AD, such as chemical sociology, psychological physics, siliconology, mathematical art and the psychology of data networks?

But what does it matter anyway – all that has now ended. Our scientific knowledge has failed and the ants hold absolute power. They regard humanity as an enemy and are using their organizational talent as a weapon against the intelligence and so-called creative faculties of the human race. Perhaps it was not due to the ants' tremendous talent for organization that ultimately turned the tables, but rather our own constantly deteriorating organizational capabilities. Consider the enormous increase in the number of meetings, for example. The vogue words were "policy" and "efficiency", but how right my father was when he jested: "meetings are the greatest invention of the 21st century – they are the only processes that cannot be automated!"

And then, of course, there was the discovery of the beta2-growth hormone, which was expected to solve the world's malnutrition problems. Certainly, plants and animals became larger. But so did insects, and this fatally disturbed the balance of natural proportions. Looking back, I believe one of the most remarkable developments was the rise of movements against the killing of insects. It seems, ridiculously enough, that the increased pity for insects was directly proportional to their increased size.

1st January 2356

TODAY I devised a plan of escape. As far as I know, I am the only human survivor. I feel I shall go mad. My only friend is this diary. It is just as though the words I put on paper are being read aloud by an invisible companion and besides, the very act of writing forces me to collect my thoughts.

My plan is this. First, I must try to reach the caves. I know it's absolutely dark there, and that many dangers lie in wait.

Perhaps I can make use of the glow-worms out in the fields to light my way. I must remember to collect enough nectar from the flowers in the open fields to keep my little friends alive during my journey through the caves. It will be a good idea to take the "Book of Flowers" with me too, so that I can determine exactly which flowers produce nectar in reasonable quantities, and whether they are dangerous or not.

After passing through the fields and the caves, I will arrive in the country of the Tenins and the Lepries ... at least if all goes well! It will be important then to study James Arwell's writings thoroughly, and perhaps even to learn the main points by heart.

Finally I should arrive at the insect garden. Hardly anyone has ever succeeded in passing beyond that, so I will have to be very careful – this must be the last post before the enemy's stronghold, the place where "the object" is guarded. The only person who has managed to pass the garden was George Baldwin. I must read his treatise on insects. The brochure about the garden, written in the time when the garden was still under human management, will also be worthwile reading.

I could take all this literature with me, but the chances are I will lose at least some of it on the way. So I must memorise it all. Strange, that the ants should have left a number of insects and, as far as I know, even a number of animals alive. True, we humans had our zoological gardens, but wasn't that explained by a general interest in life? Would ants feel that way about it too?

2nd January

FROM CHILDHOOD I remember that the 2nd of January was the first "normal" day of the year. January 1st always fell on a Sunday, and each time there was something special about that day. There were the usual New Year's programmes on television, such as concerts, shows, and a circus programme for the children. The second day of the year was the real start, meaning that the resolutions of the first day of January had to be carried out, or at least initiated, on the second day. In that way January 2nd was also a test case for the rest of the year.

Should I, then, start today with the plans I described yesterday? I really don't know. Doubt has got the better of me. I spent hours and hours brooding on it today. Of course I could hide myself as long as possible, in the hope that the ants won't find me. Perhaps fate is just a matter of making decisions and simply accepting the consequences. Hiding myself will mean hiding again and again, because once the ants catch my scent, they will keep searching until they find me. I must think of something to put them off the track!

3rd January

TODAY I took an old notebook. The pages were not numbered, and one by one I tore them out, saying to myself at each page: "I will carry out the plan, I won't carry it out, I will, I won't".

It was quite a thick notebook, but I had plenty of time and so it didn't really matter. All the time I was hoping the result of my test would be that I didn't have to go. It was a forlorn hope: the last page indicated I would have to carry out my plan. Why do I believe in such stupid oracle games?

My father once told me that walking under a ladder would bring bad luck. I remember doing it anyway, just to defy fate. I spent the rest of the day fearing an accident, but nothing happened. At the end of the day it was perfectly clear to me that superstition is just pure nonsense. But all the same, I've never walked under a ladder since ...

4th January

I MUST NOT forget to study Donald Beamon's drawings. They undoubtedly have something to do with the caves. Beamon probably drew cross-sections of them, but how could he have had access to all that information? And how could he have drawn them so beautifully? Perhaps he actually explored the caves himself... or did he get the information from the builders. The drawings probably show different layers, but I doubt that they are in the right order since everything was lying in confusion when they were found.

5th January

TODAY I have definitely decided to go. I know it doesn't sound very convincing, but in exactly one week's time I shall really leave. During the coming week I will prepare myself by studying everything that could possibly be of help on my journey to freedom. I have allowed myself exactly one week for these preparations because I know that if I don't impose a time limit, my uncertainty will cause me to put it off altogether.

There is not much to study. The most important things are:

- the Book of Flowers,
- the James Arwell Society's publication, which among other things describes the Tenins and the Lepries,
- Donald Beamon's drawings,
- everything I can lay hands on concerning the insect garden and the ants.

Tomorrow I will start collecting material on insects, especially ants.

6th January

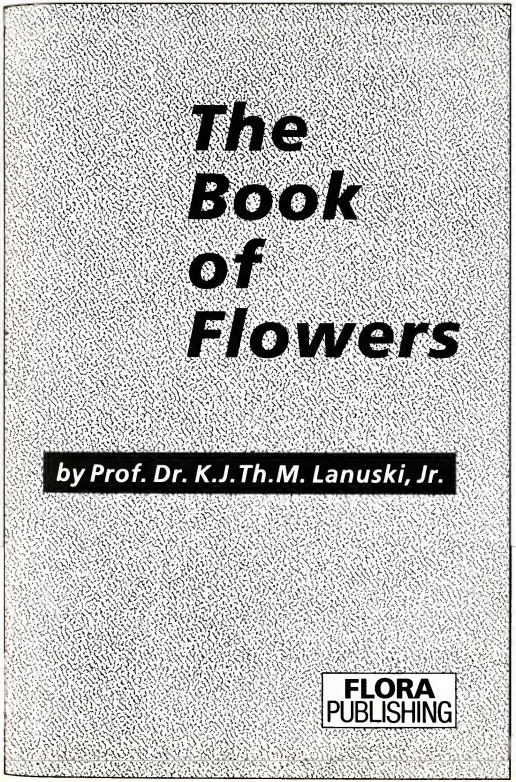
FEAR AND CERTAINTY are usually each other's opposites. Lack of certainty about the future gives one a feeling of insecurity, which in turn results in fear. Today, however, I experienced how utter fear can turn into absolute certainty.

I was in the garden when suddenly I heard a rustling noise coming from behind a hedge. Instinctively I ducked behind some bushes.

Only then did I dare to look. My fears proved to be correct. Two fighter ants were coming along the path, zig-zagging as though they were drunk, and tearing off any twigs hanging in the way with their sharp jaws. One ant followed the other, probably following the scent trail of the first. I felt as though my heart were in my mouth. I hoped that the distance between me and those rapacious cannibals (they devour their own kind without any scruples at all) was great enough, otherwise they would certainly catch my scent.

Fortunately they moved on. I sat there for at least an hour. Then the fear turned into certainty. I knew I couldn't keep this up indefinitely. If they didn't find me today, they would tomorrow. I had to leave. As soon as possible. I can't allow myself to think about anything but my departure. From now on I must use every spare moment in preparation. For that reason I have also decided to break the habit of "talking" to my diary, which will remind me daily that there is no way back. My dear diary and faithful friend, you have been my only companion for many hours...

Today I'm saying good-bye. I hope that if I were to hold my ear to your worn cover, I would hear you wishing me good luck. Au revoir ...



Contents

MILDEWBILL

Lanuski, Prof. Dr. K.J.Th.M.
The Book of Flowers
1. Nature 2. Identification – Flowers
I. Title II. Rosebush, Prof. Dr. B.
Ninth Edition
1205.56'2306 AB337866.9

WITCHES'TONGUE

Preface

Is there anyone who doesn't appreciate the gifts of nature? Mother Nature with her infinite variety of plants, animals and minerals compels a deep respect from us all. The bright red colours of the lion's claw or Japanese cherry, the remarkable leaf pattern of Galileo's gooseberry, the sharp thorns of the needle laurel in contrast with the soft leaves of the Pascal lily. This is just a random selection from the never-ending panorama that is mankind's inheritance.

But it is not just the visual beauty of all these things that fascinates us, the possibility of identifying and cataloguing each type of plant also forms part of the pleasure for the real lover of nature.

This book is meant to be a simple but exact guide. It contains the results of years of research by Professor Lanuski Sr., who with endless patience and understanding, created order out of chaos.

Since 1911, Professor Lanuski's work has been carried on by his son, Professor Lanuski Jr., also my father. It was he who discovered that the mildewbill often undergoes a short metamorphosis at Whitsuntide. He also noted the cross-grain (cruxus-granium), of which the lower leaves are typefied by a curious right-handed curvature, undergoes a kind of thermodeflection process, giving the impression of a left-handed curvature.

This book is in fact an abstract of the complete work which is at present part of the collection in the Department of Rare Books of the Royal Russian Library of Berlin, and remains to this day one of the most widely-read books on popular science. Certain modifications and changes have been made in this edition, under the supervision of Professor Lanuski Jr. For instance, undulating curvature now has priority over spiral curvature and not vice-versa, as was previously the case.

This notable revision is necessary after new considerations concerning the number of vesicles on the root-hairs.

Finally, the drawing of the Circea (Witches' tongue) has been corrected to incorporate the brushlike bracts at the foot of the flower stem. These were probably omitted due to an oversight on the part of the original editors.

It is my hope that the readers will benefit from these important revisions.

Professor Dr. K.J.Th. M. Lanuski

Preface to the Eighth Edition

When the first edition of the Book of Flowers was published in my grandfather's day, I doubt he could have forseen the need for an eighth edition

in such a short period of time. Success, however, always brings with it a certain amount of reserved criticism. I am, of course, referring here to the comments of Professor Rosebush, of the University of Munich. His assertion that the modification of the sequence of undulating and spiral curvature is incorrect appears to have divided the botanical world.

His action can only be seen as an attempt to gain recognition for his own studies, a practice unworthy of so eminent a scholar.

Professor Rosebush's criticism amounts to a modification of the definition of the concept of "root-hair" which, he alleges, can appear above ground as early as February. I regard this as completely false. It is, of course, possible that the root-hair can appear early in February, but this may be regarded as a rare exception.

Professor Dr. K.J.Th. M. Lanuski

Preface to the Ninth Edition

BROKEN WEED

It was with great sadness that I received the announcement of the death of Professor Dr. K.J.Th. M. Lanuski. It is beyond doubt that his publications belong to the most important botanical literature of all time. Particularly his research on the undulating and spiral curvature forms one of the most important studies of the century.

The discovery of the oblique leaf formation of the Herniaria Ciliata (Broken Weed) has rocked the botanical world. Despite the suggestion of Professor Messerstingel of the University of Washington, that this is probably due to a virus disease, similar to that found in the Carylus Tubulosa (Page's Lung), Lanuski's discovery is proof of his remarkable powers of observation. May he rest in peace.

I regard it not only as a great honour, but also as a positive pleasure, that the publisher has requested me to edit Professor Lanuski's work. Several minor revisions have been included in this edition. Most importantly, the sequence of spiral and undulating curvature has been reversed.

Professor Dr. B. Rosebush

The identification of plants

The identification of plants is one of the most fascinating pursuits of the botanist. Fascinating but certainly not simple.

Care must be taken, because a cursory study can lead to a wrong identification.

Only the botanist who devotes sufficient time to the subject will be able to classify plants from the abib (abnaki) to the zymstic zamia.

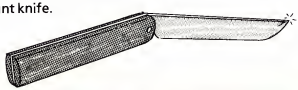
The following tools are essential for proper identification.

1. The magnifying glass

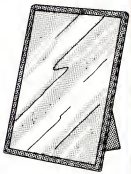
A good magnifying glass is part of the botanist's standard equipment. A stout handle is recommended because vibrations can distort observations. A number of manufacturers supply magnifying glasses complete with support.

2. The knife

"A botanists life is determined by his knife." This well-known statement by the famous botanist Dr. Trullenwaller underlines the importance of the knife in this profession. A sharp knife is absolutely essential. Blunt knives not only damage the plant but also hamper identification. On one occasion I heard a botanist ecstatically remark "It's a dandelion!", while he had in fact mistaken the specimen for a marguerite. The cause of this embarassing botanical error was..... a blunt knife.



3. The mirror



Many botanists tend to forget the humble mirror, thinking, perhaps, that they can view the underside of a leaf without first cutting it loose from the plant. Obviously impossible! It is also important to realise that sometimes objects can be more readily identified when seen in reverse.

4. Notebooks

Although a notebook can hardly be described as a tool, it would be wrong to omit it from this category. The true botanist would not be without his notebook. Dr. W.W.H. Smith once remarked: *"Every biologist is deeply impressed by the capacity of that organ we simply call 'the brain'. However, when some vital detail must be remembered, it sometimes lets us down."* This serves to emphasize the importance of the notebook.

The principal groups

The main divisions in the botanical world are determined by environment. For example, an oak tree will not be seen growing in the middle of a lake, because the oak requires solid ground in which to anchor its roots.
That is why the most beautiful oaks are found growing near churches and castles, where for centuries the ground has not been disturbed. The beech tree is similarly adapted. The mightiest beeches are usually found in Scotland where the soil in which they grow has been penetrated by the blood of the Gaelic clansmen as they fought and died for possession of the neighbouring castle.
The mushrooms that grow in the vicinity of these castles are, in contrast, to be found on watery ground.
The term "watery" is, perhaps, a little misleading, since it refers to the damp, misty, almost poisonous bogs of the areas where one might expect to meet witches rather than elves.

In order to arrive at a correct identification of plants, the following environmental divisions can be made:

marine types
fresh-water types
swamp types
wet soil types
dry soil types

These divisions are discussed and illustrated with a number of examples.

Marine types

These types thrive in estuaries. The most remarkable characteristic of these plants is their flexibility, which allows them to move to and fro with the ebb and flow of the water, as if the laws of gravity had been suspended.

The marine types are primarily distinguished from each other by their stems and leaf:

1. **one or more stems;**
2. **with or without leaves; and**
3. **with or without vesicles.**

WATER TULIP

1. One or more stems

An example of this type of plant is the **water tulip.** It is in fact an imported plant, most likely brought to Europe by the Normans during their expeditions through Europe – they even reached as far as Sicily.
The bulbs were probably blown overboard during a storm and adapted themselves to our northern waters. Further examples of multi-stem plants are the **salt thistle,** the **beach anemone** and the **sea porcupine herb.** Care must be taken not to confuse the sea porcupine herb with the **sandbank barley.**
The latter belongs to a transitional type currently classified as a swamp plant.

2. With or without leaves

The **wag-tailed oat** is without doubt the archetypal marine plant without leaves. There are small dents on the stem of this conspicuous plant out of which small white hairs, the so-called citracheae, originate. The true function of these citracheae is still not clear, despite the remarkable phenomenon that they point upwards in fresh water but downwards in salt water.

In contrast to the leafless wag-tailed oat, the **water bat fern** is a typical example of a marine plant with leaves. This is evident when the plant is found in low clear water, where its red leaves are quite conspicuous.
Along with the water bat fern the small get-lost **daisy** and the **herring celery** should also be mentioned. The name of the latter has no connection with the shape of the herring but derives from the fact that it is an abnormally large carnivorous plant in which the remains of partly devoured herrings have been found.
At present we know that the herring celery is also a danger to other kinds of fish such as plaice, turbot and flounder.

WAG-TAILED OAT

3. With or without vesicles

One of the main characteristics of marine types is the presence of vesicles, i.e. bubbles. A well-known example of vesicular plants is **thunder weed.** Squeezing the vesicles gently results in a popping sound. Fishermen used to put the plant under the bed of their beloved, and even now delightful stories are told about it.
Another example of the marine vesicular type is **mermaid weed.** This plant is also covered with a great number of vesicles. Squeezing them, however, does not cause a popping sound. Mermaid weed has a relatively high phosphor content, and is considered to have great potential for solving the world's malnutrition problem. Its name is derived from the story of an old sea captain who mistook the plant floating alongside his ship for the curly locks of a mermaid.
The **briny gooseberry** also belongs to this category. Its name is actually quite misleading, because it suggests that the vesicles are berries. Although this is not correct, the vesicles do, however, have a remarkable flavour and their healing properties, especially with regard to rheumatism, are well-known.

Fresh-water types

The fresh-water types have a firmer structure than the marine types. It is generally accepted that the reason for this lies in the different specific gravities, which cause significant variations in the gravitational forces exerted on the plant. Of course the strongest plants are found in running water.

Just as the marine types, fresh-water plants fall into one of the following categories:

1. one or more stems;
2. with or without leaves; and
3. with or without vesicles.

Schrumpelblatt, of the University of Bern (Switzerland), suggests a further classification based on the specific gravity of the water in which the plant grows. We agree that this has its theoretical merits, but do not consider his classification principles to be sufficiently practical. This is supported by the fact that, using Schrumpelblatt's system, many plants can be placed in more than one category. It is clear that such ambiguity can be extremely confusing, and we therefore favour the conventional system.

WATERDIVER WEED

1. One or more stems

The best example of the multi-stem fresh-water type is **waterdiver weed.** It is a very graceful plant, usually found in shallow fens, and its dried leaves make a delightful cup of tea. Around 1800 AD the plant was used for this purpose on a large scale, and it is quite evident that the historical drop in tea prices in Cambridge at this time can be explained by these developments.

Witch-stone, however, although also a multi-stem type, is extremely poisonous. It can be identified by the fact that its various stems are often found entwined. There are even different variations in which the stems interleave, e.g. the 2:1 type, where two stems, mutually entwined, are entwined by a third.

Other variations are 3:1, 3:2, 5:4, 4:1 and, in some parts of Brazil, 4:2 and 5:2.

A third representative of the multi-stem variety is the **yellow spine,** which can be identified by six regularly arranged spines directly under the flower. The spines are not poisonous, but may cause irritation on skin contact.

2. With or without leaves

If one takes a walk through a forest at the end of spring, and the sun is high enough, the brilliant green leaves of the **shelter-moss,** often confused with **green croaker spawn,** may be observed. The most beautiful variety is undoubtedly the **white lily,** a plant that can be quickly identified by its completely white leaf. Besides the white lily, there are also **red, yellow** and **green** lilies, although the latter is extremely rare. The **green lily** is unique in the botanical world. There is no general consensus as to whether the conspicuous green flower should be considered as a flower, or rather as a leaf.

The last member of this category we will discuss is the **naked buttercup,** also unique in the botanical world because at first glance it has no leaves at all. In 1930, however, it was shown that the stem and the leaves had coalesced, i.e. grown together forming a whole. Actually the leaves form the outer ring of the stem which, as a result, is remarkably strong.

There are several anecdotes about the naked buttercup. According to one it was customary for the young men of ancient Russia to offer the girl they wanted to marry a naked buttercup. If the buttercup was accepted and put in a vase of water, this would signify that the girl was willing. One can only imagine the symbolic meaning if, instead, the stem was broken ...

BUBBLE FLOWER

NAKED BUTTERCUP

3. With or without vesicles

The number of fresh-water vesicular species is considerably smaller than in the corresponding marine category. Two plants are typical representatives of this class – the **crisparis,** which makes a strange crackling sound when trodden on, and the **bubble flower.**

Maroskuwski also classifies the **marine mermaid weed** as a member of this group, which is sometimes found in estuaries. This classification is not followed here.

The crisparis has small yellow vesicles at random places on the stem. They contain a yellowish, bitter sap whose alleged healing properties, described in many books, have never been adequately investigated.

The bubble flower grows abundantly in lakes and ditches. You may have stood at the waterside once, wondering at the small bubbles rising to the surface. It is this phenomenon that betrays the hiding place of the bubble flower, and to which the plant owes its name (unlike most species, the name was not determined by the small vesicles just under the leaves). The bubbles are caused by a pungent gas escaping from the vesicles, and it is therefore not surprising that in some parts of Canada the plant is referred to as **dung-weed.**

Swamp types

The swamp types are undoubtedly an important group in the botanical world. Actually they are a transitory group, since plants belonging to this category can be classified as either fresh water types or wet-soil types, depending on the water level.

The main classification system we have followed so far does not, however, apply to swamp types. For these types we will establish the following sub-categories:

1. **with or without spines;**
2. **bilateral symmetrical leaves; and**
3. **number of flower petals.**

Before going into details, the reader should remember that swamps are dangerous, not only because the ground is treacherous, but also because of the plants that can be found in the area.

We would remind the reader of the terrible fate that overtook the famous botanist William Daisy, of the University of Texas, during research in the Everglades. His remains were at long last found in the flower of the man-eating **mist lily.** Only by the heap of clothes found under the plant (apparently discarded by the lily as though it found textile unpleasant to eat) could the victim be identified.

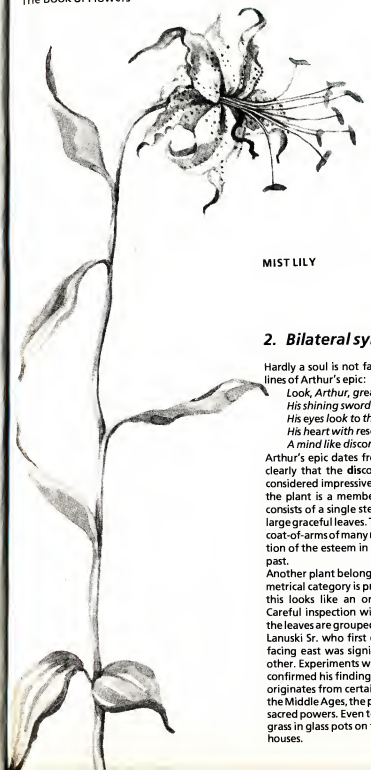
1. With or without spines

The first plant in this category we will deal with is the **spiny fern.** It is often associated with the **cheeky yellow thorn finch,** perched on the plant and singing its familiar song – ti ti tu tu tu ti ti tu tu tu etc. The leaves of the plant have a number of long, sharp offshoots, giving the plant its name.

The **mist lily** (mentioned above) is rapidly becoming extinct. It is one of the plants that give our swamps their characteristically sinister atmosphere. The leaves are curled, reflecting as it were – despite its beauty – the menacing unpredictability of the plant. The centre of the plant is formed by a strangely curled pistil. We have already warned the reader of this dangerous plant, and would add that it is easily confused with the **common lily,** which is completely harmless. One of the most notable characteristics of the mist lily is that the end of the stem always bends sideways.

Sometimes the brown-beaked cross-head finch may be seen on the mist lily, its red tail wagging impatiently and giving the impression that even the slightest sound would be sufficient to frighten it away.

The last plant discussed here is the **tentacled polyp.** It has small tubercles on its sharp thorns, making the plant readily identifiable. The flowers of this beautiful plant are deep blue in colour, and have been a source of inspiration for many an artist. It was the tentacled polyp with which King Ludwig XI was poisoned. Never handle this plant without gloves!



MIST LILY

2. Bilateral symmetrical leaf

Hardly a soul is not familiar with the famous lines of Arthur's epic:

Look, Arthur, great and brave
His shining sword blinds the eye
His eyes look to the East
His heart with resolution burns
A mind like discord ferns.

Arthur's epic dates from 1033 AD and shows clearly that the **discord fern** was even then considered impressive. As the name suggests, the plant is a member of the fern family. It consists of a single stem that divides into two large graceful leaves. The plant appears on the coat-of-arms of many noble families, an indication of the esteem in which it was held in the past.

Another plant belonging to the bilateral symmetrical category is **prayer grass.** At first sight this looks like an ordinary clump of grass. Careful inspection will reveal, however, that the leaves are grouped two by two. It was Prof. Lanuski Sr. who first discovered that the leaf facing east was significantly larger than the other. Experiments with ultra-violet rays later confirmed his findings. The name of the plant originates from certain monastaries where, in the Middle Ages, the plant was attributed with sacred powers. Even today one may see prayer grass in glass pots on the window sills of some houses.

3. Number of petals

A last resort in identifying difficult swamp types is counting the number of petals. A simple example is the **poor-louse carnation** which, in sharp contrast to the **dribble flower** with its eight to eleven drooping petals, has only one petal. The petals of the dribble flower are usually covered with a sticky substance. It is interesting to note that this is reflected in the name by which the plant is called in other countries. The French, for example, call it the **spittle flower**, and in south-eastern parts of Ireland it is referred to as the **mucus flower.**

DRIBBLE FLOWER

WHIT-STRANGLER

Wet soil types

When considering this category it is tempting to think of transitory types, in particular those in between swamp and dry soil types. This is incorrect. Wet soil types must be regarded as an entirely independent category.

This is not surprising, since wet soil types are first and foremost those plants that adapt themselves easily to wet and dry periods. It is probably this unique ability that lead to John Wassermutter's famous statement: *"If I were a plant, I would wish my home in wet land!"*

Two simple sub-categories may be distinguished:

1. **with or without spines; and**
2. **a hairy stem.**

1. With or without spines

Of the many plants in this group, the **small pin palm** deserves a great deal of attention. The plant indeed resembles a small palm, but its stem is covered with a great number of small spines.

These spines should never be touched! If they are, nausea and violent fits of vomiting may result after about half an hour.

It is an interesting fact that all animals and insects, except the cross-wasp and the purple louse, shun the pin palm. The cross wasp populates the plant in large numbers, although this is not evident at first glance. A strong magnifying glass, however, will reveal that this insect usually hangs under the leaves of the plant, pressing its sucking organ on a purple louse.

The latter apparently secretes a very sweet substance on which the cross-wasp feeds. Maroskuwski speaks in this regard of the wasp "milking" the purple lice.

Secondly, attention should be drawn to the plant known as **nail green.** Its leaves are usually tightly rolled up, resembling small pins or nails. In its flowering period, nail green spreads a soft carpet of pink flowers. It is a lovely plant and alone justifies a visit to a wet soil area.

The last plant discussed in this sub-category is one that is readily identified by its numerous, twisted branches. It is the so-called **flesh-eating strangling plant**. The name refers to the way in which the plant strangles its victims before devouring them. As the flowering period is usually around Whitsuntide, this cruel joke of nature is sometimes called the **Whitstrangler**.

2. *Hairy stem*

Sometimes plants may be found of which the stem is covered with a blanket of white, furry hairs or threads (not to be confused with the covering of pins found, for example, on the pin palm). One of these is **beard moss**. On young plants the threads are relatively dark, but as the plant grows older they gradually turn white.

Beard moss can be easily identified by the regularly-spaced rings along the stem, caused by the absence of the tiny hairs. Never try finding these rings by running your finger along the stem, because the hairs cause a severe itch. Almost every botanist can tell amusing stories of accidently sitting on beard moss. All these stories have one thing in common: the hairs penetrate all kinds of clothing!

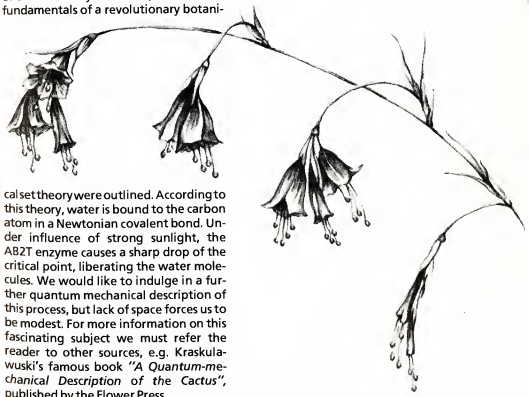
Whisker yarn also belongs to this sub-category. It has a remarkable *"wavy"* stem, and although the hairs covering the stem are hardly visible to the naked eye, small folds can be clearly distinguished on the leaves. The flowers of the whisker yarn are brightly coloured and bear a close resemblance to an extinct plant called the **daisy.** Whisker yarn has a large nectar production, and it is therefore not at all surprising that it is frequented by large numbers of bees in the flowering season. The stem has a sweet flavour. Try it yourself by picking one and sucking the end – you will certainly like it. On the west coast of Japan the plant is used in all kinds of dishes. It is also known to have certain stimulating effects. In the eastern parts of Japan, for example, newly-wedded couples are traditionally treated to a meal of dried whisker yarn stems.

WHISKER YARN

Dry soil types

The last plants discussed here are the dry soil types – quite a remarkable category, since plants need water.
That nature is able to show her beauty even in dry soil, can only be regarded as an extraordinary gift of adaption. Many biologists of note have spent years of research on the basic principles underlying this adaptive mechanism.

An excellent systems analytical treatise on the subject was written by Birkenliar of the University of Florida, in which the fundamentals of a revolutionary botanical set theory were outlined. According to this theory, water is bound to the carbon atom in a Newtonian covalent bond. Under influence of strong sunlight, the AB2T enzyme causes a sharp drop of the critical point, liberating the water molecules. We would like to indulge in a further quantum mechanical description of this process, but lack of space forces us to be modest. For more information on this fascinating subject we must refer the reader to other sources, e.g. Kraskulawuski's famous book *"A Quantum-mechanical Description of the Cactus"*, published by the Flower Press.



WHITE CARILLON

In classifying dry soil types, the following distinctions are usually made:

1. **presence of spines;**
2. **leaf shape; and**
3. **stem shape.**

1. *Presence of spines*

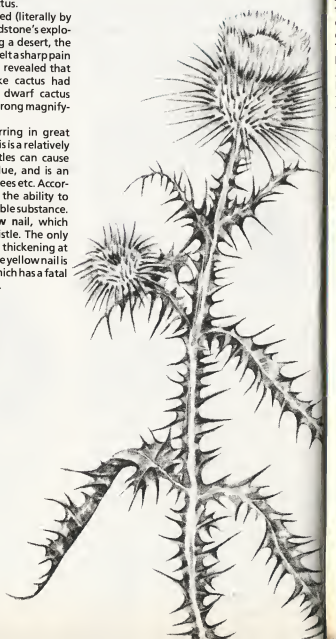
The most obvious group in this category is, of course, **cacti.**

There are many different kinds, e.g. Epiphyllum-Phyllocactus, Zygocactus, Rhipsalis, Opuntia, Cereus, Echinocereus, Echinopsis, Coryphantha and the dwarf cactus.

The **dwarf cactus** was discovered (literally by accident) during one of Dr. Deadstone's explorations in Africa. While crossing a desert, the enterprising scientist suddenly felt a sharp pain between his toes. Examination revealed that an extremely small marble-like cactus had caused the discomfiture. The dwarf cactus rarely flowers, and if it does, a strong magnifying glass is needed to see it.

A plant in this category occurring in great numbers is the **startle thistle.** This is a relatively large plant, and its sharp thistles can cause serious injury. The flower is blue, and is an important source of nectar for bees etc. According to Miskery, the plant has the ability to store large amounts of this valuable substance.

Finally we mention the **yellow nail,** which closely resembles the startle thistle. The only difference between the two is a thickening at the base of the plant. Beware: the yellow nail is an extremely poisonous plant which has a fatal paralysing effect on the muscles.



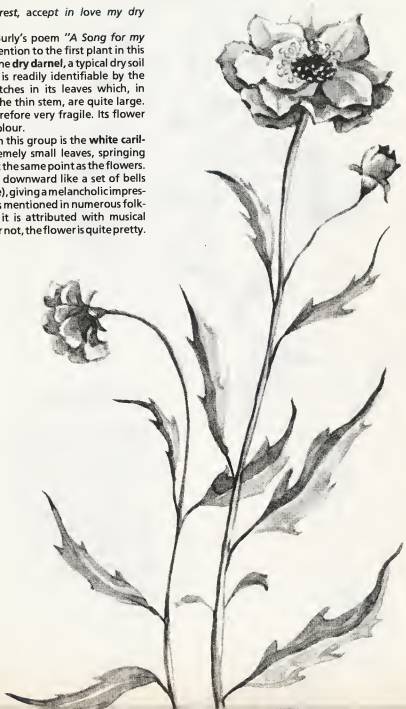
STARTLE THISTLE

2. *Leaf shape*

"Truly, my dearest, accept in love my dry darnel."

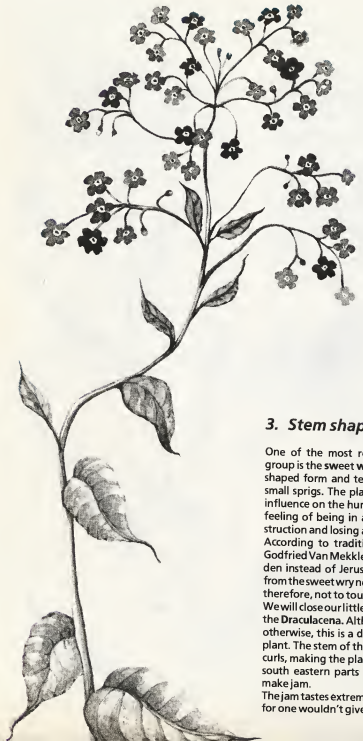
This line from Burly's poem *"A Song for my Love"* draws attention to the first plant in this sub-category – the **dry darnel,** a typical dry soil type. The plant is readily identifiable by the conspicuous notches in its leaves which, in comparison to the thin stem, are quite large. The plant is therefore very fragile. Its flower has a vivid red colour.

Another plant in this group is the **white carillon.** It has extremely small leaves, springing from the stem at the same point as the flowers. The latter hang downward like a set of bells (hence the name), giving a melancholic impression. The plant is mentioned in numerous folktales, in which it is attributed with musical qualities. True or not, the flower is quite pretty.



DRY DARNEL

SWEET WRY NECK



3. Stem shape

One of the most remarkable plants in this group is the **sweet wry neck**. Its stem has an S-shaped form and terminates in a number of small sprigs. The plant's nectar has a strange influence on the human mind, giving one the feeling of being in a large bulb-shaped construction and losing all sense of direction.
According to traditional tales, the crusader Godfried Van Mekklenwiede ended up in Sweden instead of Jerusalem after eating honey from the sweet wry neck. We would advise you, therefore, not to touch it!
We will close our little book with a discussion of the **Draculacena**. Although the name suggests otherwise, this is a delightful, non-poisonous plant. The stem of the flower has conspicuous curls, making the plant easy to identify. In the south eastern parts of England it is used to make jam.
The jam tastes extremely bitter, however, and I for one wouldn't give a penny for it.

Index of flowers

Bold names and numbers indicate illustrations.

The Book of Flowers

JAMES ARWELL

(2060-2132)

A publication of the James Arwell society, commemorating the birth, one hundred years ago, of one of the most distinguished scientists the world has ever known.

New York
September 2160

Foreword

It is with great pleasure that we present this publication on James Arwell. Our society has been in existence for 28 years now, and it is flourishing as never before. In this regard we must pay tribute to the work of our first president, Professor Waterman.

From the day of its inception (28th November 2132) to the day of his departure (23rd December 2132) it was Waterman's dedicated effort that laid the basis for the Society as it is today. In his opening speech, Waterman stated: "Of all the scientists the world has ever known, not Newton, Leibnitz or Einstein, but James Arwell has made the greatest impact on civilization, and it will not be long before this fact is universally accepted."

Waterman was right. The hallmark of true genius is not in the degree of complexity of a theory, but rather in its simplicity, and, above all, the practical consequences it has for everyday life. Older people among us can, perhaps, remember the names of Bach, Mozart and Beethoven – composers whe were regarded as great only a few centuries ago. We now know that Elvis Presley, the Beatles and Michael Jackson were the real geniuses. Their simplicity won the hearts of millions. In the same way the influence of James Arwell will eventually be recognised.

In this anniversary edition we have collected the most important works of James Arwell, including, of course, his diary, from which we have selected the references to his discovery of the Tenins. His inquiring mind and sincere concern for establishing the truth reflect his unique personality.

The story of Patricia and Gwendila, which played such an important part in his studies, has also been included in this edition. Following this are the notes that Arwell almost certainly must have made after reading the story. They were discovered in an old suitcase in the attic of his farmhouse.

In the same suitcase, antique literature on computer programming languages such as BASIC, Pascal, ADA and ALL (introduced in 2020 AD) were also found. From his biography it can be concluded that Arwell completely turned his back on computing, and it is curious, therefore, that the notes were found together with the books.

The last part of the anniversary edition contains a text titled "The way of life of the Tenins and the Lepries", written by Harry Moreover, a prominent member of our society. It is illustrated with drawings done by Arwell himself. Finally a number of classical prints depicting Arwell are presented. Copies can be ordered by remitting $ 270 to the account of our treasurer.

From the diary of J. A.

2nd September 2084

Where is tranquillity, where concentration? I got up at 8 a.m. today. Much too early, of course, because I have nothing to do for the next five days. I still remember the fancy arguments in favour of the introduction of the two-day working week.

Automation, according to those blind fools, is a blessing for mankind, liberating him from the obligation to work. Work degrades a person to a slave, and thanks to the two-day working week the remaining five days can be used to enjoy another way of life. Work, apparently, has become a matter of secondary importance. Fine, but what is life all about?

3rd September

Looking out of the window, I can see boys playing with robot cars in the street. On old photographs you can see boys playing with cars too, but those cars were different. What is it that is pulling me back into the past? Is it the tranquillity...?

4th September

Today I took a long walk. I drove a long way past the mono-docks, where the noise is unbearable. I stopped at a sandy track in the forest, parked the car, and started walking. Forests always impress me deeply, and fortunately hardly anyone frequents them nowadays. Being one with nature gives a great feeling of freedom.

My parents did not like forests at all, which seems strange, considering that they spoke of them as of them as of some kind of paradise. Their database was crammed with books on nature, and even the videobase was filled with a good number of productions on the subject.

After walking westward for about half an hour, something remarkable happened. While examining a fly-fungus, I heard a loud buzzing sound. I soon discovered that it was caused by a huge fly, hovering between the trees like a helicopter. Of course, I knew of the existence of giant insects. The daily papers have been packed with stories about them, and it was supposed that their enormous growth had been caused by a new kind of insecticide.

Terrified, I hid behind a large oak. Then, from behind a berrybush, a girl-like creature with flowers in its hair, appeared. It was a delightful creature, closely resembling a human being, although it was immediately clear that this could be no human being. "She" beckoned to the fly, which apparently wanted to land next to her. Something even more remarkable followed. The creature looked in my direction, penetrating me with her beautiful eyes and nailing me to the ground. I knew that I could hardly be visible, but it was almost as though this wonderful creature could see through trees! A moment later she simply disappeared. Not gradually, but in a twinkling of an eye, just as though somebody had turned off a switch.

5th September

I had a very uneasy night. Had I dreamt everything...? To make sure, I got up and looked through yesterday's notes. I am certain I did not dream it, because I had written it all down before going to bed! My notes seemed very short, however. I shall set down the details but only for those things of which I am absolutely certain.
Eyes: penetrating, kind and ... I don't seem to be able to find the right word ... a little calculating, perhaps.
Hair: long, curly and blond, decorated with flowers.
Clothing: simple, not very colourful, coarse.
For the rest I don't seem to remember any details, except that she was remarkably small.

8th September

I'm in two minds about telling the world of my discovery. People will certainly not believe me, but on the other hand it would be cowardly not to make the matter public. This morning I told Laura the story laughingly. It scarcely seemed to impress her. She thought I had been writing a novel.

11th September

For the fifth time now I have returned to the spot where I first saw that beautiful creature. I had great difficulty in finding it again, but at last I succeeded. Many small details, a broken twig, a tree with strangely formed branches, a brook, seemed to have left their marks on my memory during my first trip, and helped me to find the way back. I sat and waited for hours on end, but nothing happened. Had it, after all, been just a dream?

12th September

It is strange how a single incident can change one's life. I'm absolutely convinced that I've witnessed something of paramount importance, and that I will see it again. For the time being, however, I have resolved to keep the matter to myself. Had I told everybody, then I would have been only one of a whole crowd of people that know about it. Now, the secret is giving a remarkable new meaning to my life.

13th September

Today I retrieved all books and video series about fairy-like creatures from my database. There was a tremendous amount of information on the subject, so I was forced to make a selection.
In the first place, my selection criterium was based on the fact that I was absolutely certain that the creature I was interested in really existed. I therefore eliminated all books I knew without doubt to be based on fantasies. This left only a relatively small quantity of material. Next, I started reading the remaining books, rejecting them as soon as I encountered any nonsense about fairy castles, dragons, bewitched frogs, etc.
Ultimately there was only one book left – the one containing the story about Patricia and Gwendila. It was an anonymous story of Russian origin, so different from the usual stories that there could well be something in it!

18th September

I'm absolutely sure about it – the key to everything is to be found in the short tale about Patricia and Gwendila I discovered a few days ago. I'm convinced that the author experienced the same things that I did, and had written it down in this fashion so that nobody would realize it.

19th September

I have been reading the tale of Patricia and Gwendila. Nobody reading the story would get its real meaning unless they had witnessed a similar situation ... The author must have realised this. There is no doubt about it – I'm on the right track!

24th September

I'm starting to doubt myself. I have read the story at least a hundred times and know it almost by heart. As a test, I'll try writing it down myself.

The remarkable story of Patricia and Gwendila

A Modern Fairy Tale

Dear Readers,
All fairy tales are fantasies except the one I'm going to tell you now. For this is the charming story of Patricia and Gwendila.

Once upon a time (because all good fairy tales begin this way), perhaps not so long ago, two young sisters, Patricia and Gwendila, lived in a small village at the edge of a deep, dark forest.

Gwendila was fascinatingly beautiful. All the boys of the village adored her and it seemed that even the birds were charmed by her presence. However, Gwendila's character was not at all as pleasant as her appearance. She was very lazy and passed her time sitting in front of her looking-glass. She used a great many creams, lotions and perfumes as well as too much make-up, though she didn't need it at all because all the boys of the village loved her anyway.

Every Saturday she went to the discotheque in the village. She never carried a penny in her purse because there wasn't a boy who would not be prepared to offer Gwendila anything she desired.

Nothing would make him happier than to offer Gwendila something and for her to accept. This often resulted in arguments and even fights to decide who would be the lucky one to have the honour of taking Gwendila home, but this was almost always the boy who had the most expensive car, or sometimes, during the summer, Gwendila would accept a ride on the fastest motorbike.

Compared to her sister, Patricia was not very beautiful.

Although she was not ugly, her forehead was too high and like many young girls she suffered from acne. Patricia never used make-up or similar "beauty aids". After a good wash with soap and water she would start her work and carry on for the whole day. It wasn't long before Patricia was known

as the most hard-working girl in the village. No two sisters could be so different.

Now the reader may ask whether this is not over-exaggerated, but that is not the case. Remember that Patricia and Gwendila's mother had been dead for some time and their widowed father, like so many others, had been unemployed for many months. The only source of income, after the Unemployment Benefit had run out, was National Assistance, and, like so many families in similar circumstances, the greater part of this money was used to pay the rental for the videorecorder.

If the reader has concluded that the family was living in poverty, he or she would be wrong, for Patricia had found a way of earning money by making jam and selling it to passers-by.

However, she had never reported these earnings to the Inspector of Taxes, because she, like so many others, saw the tax system as a bottomless pit into which you could pour money indefinitely but never receive anything in return. Therefore, thanks to Patricia's hard work and initiative, and despite Gwendila's extravagance, it was possible for the family to live in reasonable comfort, and even the two dogs, Chang the Pekinese and Murphy the Irish wolfhound, were always well fed and looked after.

Now, as I said, it was Gwendila who visited the disco every Saturday, where she was the belle of the ball and turned every boy's head. But then, one Saturday, an event took place about which the village still speaks in hushed voices.

As usual, Gwendila was at the disco. Suddenly, there was a startled cry of panic in the street, "The ants, the ants, the ants are coming!" Everybody in the disco was terrified and in panic they fled from the hall.

That is, all except Gwendila. She had led such a sheltered and happy life that she had never known fear. It wasn't long before Gwendila was alone on the dance floor and despite the cheerful music that still came from the stereo loudspeakers, it slowly dawned on her that something was wrong.

So she decided to leave the building and went out on to the street which was, by now, completely deserted. Without any money, she couldn't phone home, nor could she take a taxi, even if one had been available. With difficulty she found her way home, but on arriving there, she noticed something very strange. Patricia was nowhere in the house. Then she noticed her father, who was sitting in a corner, sobbing in an uncontrollable manner. All this had a most unusual effect on Gwendila. She suddenly burst out in a fit of anger and begun to hurl accusations and insults at all around her. This was too much for her father. He suddenly stood up and left the house without a word and was never seen again. After realising there was nobody present to hear her tirade, Gwendila's mood changed and she cried as she had never cried before.

Her wailing was so loud and intense that some of the neighbours even

dared to leave their houses and go out on to the street. They told Gwendila that they had seen a great army of ants moving in the direction of the house where the sisters lived. They had not seen any more because they had quickly shut all the doors and windows, being afraid the ants would invade their homes. When Gwendila heard this she became angry with her neighbours and started to curse them although their intentions were well meant. The neighbours, angered by her selfishness, soon dispersed and returned home and had anyone been listening they would have heard remarks such as "It's a result of her upbringing".

As soon as Gwendila was alone, she began crying again.

Without doubt she would have died from wretchedness, if our two doggy heroes Chang and Murphy hadn't shown up to comfort her and lick away the tears from her eyes. As Gwendila looked up at the dogs, they ran to the front door as if guided by some invisible hand. Gwendila understood that she should follow the dogs and went to the door and opened it. The dogs sprung through the open door and raced down the village street in the direction of the forest with Gwendila following, and for the first time she felt a vague sense of hope as she followed the trusty four-footers. Once they were in the forest the dogs dashed and darted in all directions until they came to an old oak tree that was in a very bad state due to all the names that had been carved in its trunk.

The dogs at once became still and sat quietly looking at the massive trunk and Gwendila realised that this was the place where she should wait. In the meantime it had become dark and only the light of the silvery moon illuminated Gwendila's platinum blonde hair.

After all she had recently been through, Gwendila was very tired and so it wasn't long before she lay down under the protecting arms of the old oak and fell into a deep sleep. On waking the next day she began to recount to herself all the events of the previous day and to wonder if the strange journey into the forest had some deeper meaning she was not yet aware of.

But all doubt was removed when she saw an enormous fly coming towards her. Gwendila realised this was no ordinary fly and it must be connected in some way with the huge ants that had so frightened the people of the village. Some strange power was at work because such exceptionally big flies only live in fairy tales, and as you already know, this is not a fairy tale.

The fly beckoned to Gwendila with its antennae that she should climb on its broad back. As soon an she had seated herself the fly flew off over rivers and dales, hills and plains until a very high mountain came in sight. This mountain looked just like a Swiss cheese for it seemed to be full of holes, but as they approached Gwendila could see that these were caves and tunnels. Stranger still, it was inhabited by the ants which had invaded the village just a short time ago (and had been completely built by these industrious creatures). Suddenly in a clearing Gwendila saw Patricia who had been taken

Gwendila and the fly.

prisoner and was being forced to make jam for the ants, because as everyone knows, these insects are very fond of fruits and sweetness and what could be a better combination than Patricia's marvellous jam?

Quickly dismounting from the fly, Gwendila hurried in the direction of Patricia, and when Patricia saw Gwendila approaching her pent-up emotions caused her to burst out into tears and she cried out, "Oh my darling sister, please rescue me!"

"What must I do?", asked Gwendila. "You see the perfume bottles near the nest entrance? You must open the correct one and I shall be saved. But be careful; they are not all the same and if you choose the wrong one you might release an evil spirit". Gwendila looked at her sister through her tears and said: "But what if I do open a wrong bottle by mistake?" Patricia looked her sister in the face and said: "Gwendila, you must think very carefully".

This advice sounded strange to Gwendila because she never in her whole life thought of anything very seriously. She realised no matter how much she tried to reason which was the correct bottle, she would have to open one of them in the end.

She walked along the row of bottles and saw that there were five of them, all having a number on their stoppers. It was obvious to her that she should not open the first one she came to, so she opened number five first. However, when she removed the stopper she couldn't smell anything but instead she heard a voice say:

Five is more than four and what is more overshadows all that is less.

This was complete nonsense to Gwendila and because she couldn't think of anything better she opened bottle number four. Again, she heard another deep voice say:

Four is more than three and what is more overshadows all that is less.

"That is probably quite correct", thought Gwendila, "but I am not getting anywhere. No doubt if I open bottle number three I'll hear the same about three being more than two and then I can go on to the next pot and hear a similar riddle". However, as she didn't know what better to do, Gwendila opened bottle number three; again there was no aroma, but the words were different this time and were something like this:

Clouds cover the Earth's surface so that it is impossible to see the moon.

"Ah", thought Gwendila, "this time it's something different. There must be some connection here; it probably has something to do with overshadowing or covering". Feeling more hopeful she now opened the penultimate bottle and again she heard a voice:

One aroma smells better than another and what is more covers all that is less.

"At last something about an aroma", thought Gwendila, "but I'm still no wiser and there is only one bottle left". With trembling fingers she took hold of

the remaining stopper, but before she could remove it, the voices from the already opened bottles chanted in unison:

What is gone is gone, what is empty is empty;

An aroma disappears, chances vanish.

The sound of "chances vanish" didn't please Gwendila at all because she understood all too well that her chances were becoming less and less. The bottles were speaking plainly for the first time. "An aroma disappears" didn't give her too much hope either because it could mean that all the aromas of the bottles that had been opened had already disappeared.

For the first time in her life Gwendila realised that she really must think deeply. If she were to open the last bottle it could mean she could lose her last chance. "Obviously", thought Gwendila, "it has something to do with 'overshadow', but in connection with aromas". Further she realised that every aroma was always "overshadowed" or surpassed by another one that was always present. But what could this aroma be that was always stronger than the others?

Suddenly it became clear to Gwendila that the excessive amount of perfume that she used had prevented her perceiving the delicate aromas of the scent bottles. It was now crystal clear to her that to open the last bottle would achieve nothing. She first had to wash herself and her clothes so that she no longer smelled of perfume.

In the distance Gwendila saw a small waterfall and running to it she quickly undressed and washed herself thoroughly. She didn't even wait for her clothes to dry before putting them on and dashed back to the remaining bottle. She carefully took hold of the stopper and partly withdrew it. "Maybe I'll hear the voices again", she thought, "and then I'll close the bottle quickly". But no voices were to be heard anywhere.

For the first time Gwendila noticed a remarkably sweet aroma and when she looked around she saw that the ants had stopped noticing her. Gwendila understood that this was her chance and she hurried to her sister. She took her sister by the hand and without any hesitation went over to the fly that had seen everything that had just taken place. Without a trace of fear, Patricia climbed up onto the fly's back and took her place behind Gwendila, holding her lightly around the waist so as not to fall off. The fly flew off immediately, returning to the oak tree in the clearing in the forest. The most remarkable fact was that the sisters never returned to the village.

Patricia grew up to be a sincere and friendly woman.

Gwendila retained her youthful beauty but from time to time a look of uncertainty could be seen in her eyes.

And so ends this fairy tale which isn't a fairy tale at all.

I have seen strange things that are not possible in fairy tales which all end happily ever after.

Notes on the story of Patricia and Gwendila

– The first sentence: "All fairy tales are fantasies except the one I'm going to tell you now" is very unconventional, suggesting in itself that the story is indeed authentic and not a fairy tale at all.

– The passage about the fly is very interesting. The statement that: "such exceptionally big flies only live in fairy tales and as you already know this is not a fairy tale" emphasizes again the fact that we are not dealing with a fairy tale.

– The creature I saw in the forest resembles the description of Gwendila. At the end of the story the author remarks: "Gwendila retained her youthful beauty, but from time to time a look of uncertainty could be seen in her eyes". I saw the same expression in the eyes of the creature in the forest. In ordinary fairy tales a statement like this would not really be necessary. The author is describing reality... it can NOT be a fairy tale!

– In the last sentence: "And so ends this fairy tale which isn't a fairy tale at all. I have seen strange things" etc. the author states for the third time that his story is authentic.

– The author describes that Gwendila rode on the back of a fly. It can't be coincidence that I too saw a girl-like creature and a fly about to carry her away.

– The pervading tone differs from all other stories in the book. Apparently the author collected a number of ordinary fairy tales as a disguise and simply added his story to the rest.

– Certain passages are indeed unrealistic. Could the author have wrapped up his real meaning in an otherwise concocted story?

– Could the creature I saw be Gwendila and, if so, could Patricia also exist?

The way of life of the Tenins and Lepries

The following account is based on the notes made by the well-known author James Arwell, who for years conducted a study into the way of life of the Tenins and the Lepries. Arwell chose the name Tenins because of the peculiar appearance of these creatures. Tenins are similar to Elves. But this similarity only runs skin-deep. Beneath their beautiful appearances they can be very different. Usually they are good and helpful, but their moods can change rapidly. Then they are dark and deceitful. This change is characterised by a glint in their eyes and a change in the use of their language. This change in speech is discussed later.

The reader will probably have wondered how the Tenins and Lepries have survived after all the other mammals became extinct (except for certain specialised breeds in zoological gardens). James Arwell also dwelt on this subject and reached a quite simple conclusion. It has always been the Tenins and Lepries who have looked after the insect farms, and it is probably as a result of this that they are now tolerated by the insect population.

In contrast with the Tenins, the Lepries are characterised by a total lack of physical beauty. It is unlikely that all of them are old because Lepries have often been seen with children.

However, Lepries that could be classified as adults do not seem to exist. Apparently they assume their typical good-natured Leprie appearance as soon as they reach puberty. They are fortunate in that, whether they are are adults or children, the influence of old Father Time is hardly noticeable.

Another feature that distinguishes them from the Tenins is the friendly disposition of the Lepries. If there is anything that characterizes their appearance it is the friendly look on their faces. They take life as it comes ("c'est la vie" would seem to be their motto). There is no evidence whatsoever of a hierarchical structure, but if there is one, no Leprie has ever attempted to assume a position of leadership.

This does not imply that Lepries cannot accept responsibility. Arwell often observed how a Leprie in need was immediately helped by others even if they were complete strangers. This is a sense of responsibility that is inherent in every Leprie and is naturally accepted, resulting in a leaderless society.

Lepries in their habitat,
gathering herbs and taking a nap.

The Lepries follow their daily routines without the necessity of being controlled by any bureaucratic structure and their outward appearances certainly prove that they find this way of life pleasantly acceptable.

Tenins and Lepries live in natural surroundings. They can often be found in a tree, sitting on a branch with their eyes half-closed, enjoying the sun. Formerly it was assumed that both groups lived closely together, but this now seems to be wrong. In the homes of the Lepries, one seldom sees a Tenin. Perhaps the same is also true of the Tenins' homes. However, we are not sure of this, for the simple reason that the houses of the Tenins have hardly ever been seen. Apparently Tenins prefer to conceal their private lives while Lepries do not see any point to this.

If a short description on the Lepries' way of life were to be given, then it could be said that Lepries lead a life similar to that of the old Teutons. Like the Teutons, Lepries usually dress in clothes they make from old remnants. They usually wear an odd-looking cap which resembles a kind of night-cap fringed with tiny bells that ring with every turn of their heads.

Lepries, and possibly Tenins, have many artifacts in their possession which previously belonged to human beings who used to live in large numbers on this planet. For example, they know how to produce fire by simply using almost-empty cigarette lighters, which were discarded by members of the "disposable society". They have retrieved large numbers of these lighters which at one time formed a threat to the environment. The lighters have been invaluable because fire plays an exceedingly prominent role in their life, especially when the temperature begins to drop. Fire is, of course, also very important in the preparation of food.

This was observed by James Arwell, who noted that Lepries prepare a kind of blueberry soup secretly flavoured with additional herbs. Arwell also added a footnote that discarded tin cans were used as cooking utensils. He was once fortunate enough to see the effects on a Leprie after swallowing some of this concoction. The Leprie in question turned completely blue except for his hands, which took on a bright yellow hue. Strangely enough this apparent food poisoning did not alarm those around the unfortunate fellow; on the contrary, the other Lepries burst out in spontaneous laughter.

This behaviour became more confusing when the poor victim swelled and rolled all over the place like a giant beach ball. This raised the volume of laughter so much that it could be heard for miles around. It was in fact an extremely curious type of laughter that can best be described as follows:

WAU, WAU, WAU

The sound of this strange laughter brings us to a discussion of the language and speech of the Lepries and Tenins.

First, the Lepries. These "wee folk" seem to be incapable of fluent speech. This at first seems most odd, since Lepries are often seen with a book

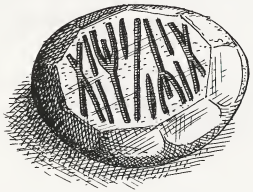
Drawings by James Arwell

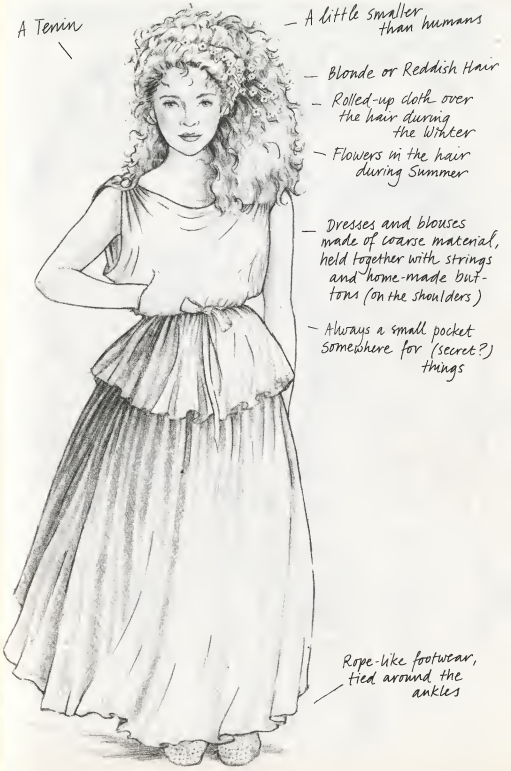
The following drawings are by James Arwell and were found, together with a number of notes, in a wine bottle under an old oak. Apparently Arwell wanted to hide them. Could it have been because he did not want to share his secret with others? Did he fear the Tenins and the Lepries? Or was it simply a matter of putting his information in a safe place? We do not know.

Many of the drawings were done with a pencil and brush, and it is hard to imagine that this could have been done secretly from behind the bushes. Some of the drawings even suggest that the subject posed patiently while the artist was busy. In any case, the drawings are quite meticulous. Perhaps the most surprising fact of all is that no photographs seem to have been taken.

It is thought that James Arwell may have developed a close relationship with the Tenins and Lepries, which enabled him to do his work quietly. His research on the language of these creatures also suggests such a relationship. Assuming this is correct, it should be pointed out that Arwell was probably the only human being to have established such close contact with these elusive creatures.

In 2132 AD, Arwell was found dead in the vicinity of a farm in Ireland. In his clenched hand a number of strangely-cut stones were found, each bearing the inscription:





Lepries at leisure.

Two Leprie children. Note the peculiar hair-style often worn by Leprie children, and the absence of shoes; the feet are often wound in rags. The ball is almost certainly a found object.

Lepries at home.

JAMES ARWELL MEMORIAL EDITION

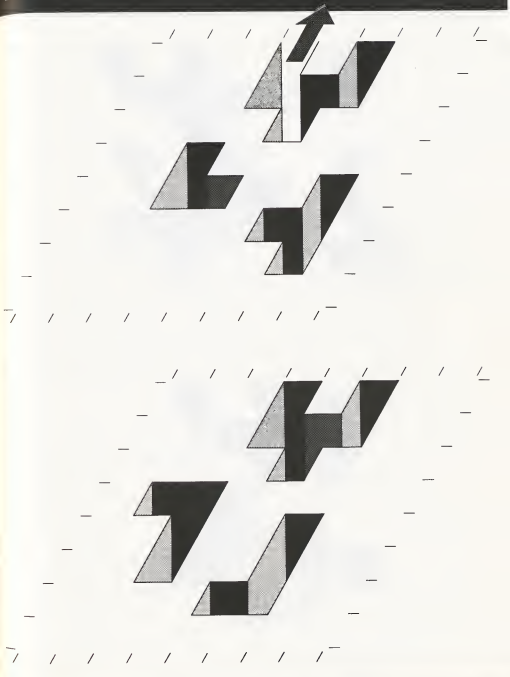
JAMES ARWELL

(2060-2132)

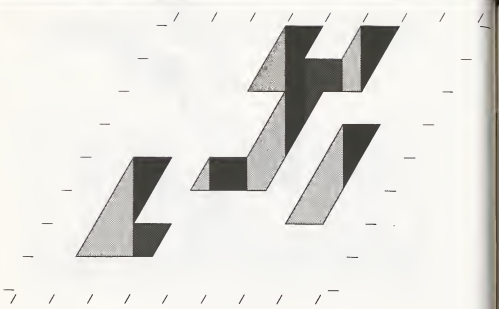
THE JAMES ARWELL SOCIETY

The James Arwell Society. Address: Universe Trade Centre, Suite 12012, New York, Earth.

DRAWINGS BY DONALD BEAMON

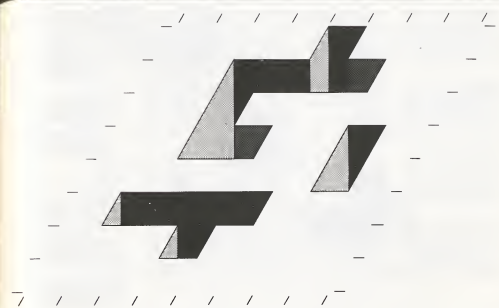


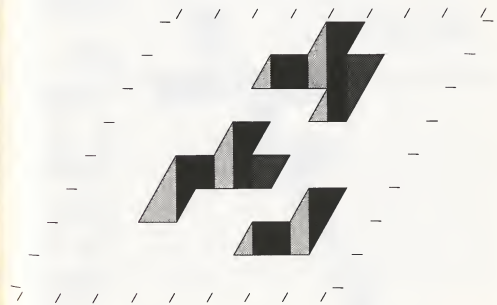
These drawings relate to the caves that lead to the land of the Tenins and Lepries. It seems that different levels of caves are shown. The arrows on



two of the drawings probably indicate an entrance and a way out. On each level, strange rectangular holes can be seen. It is almost certain that

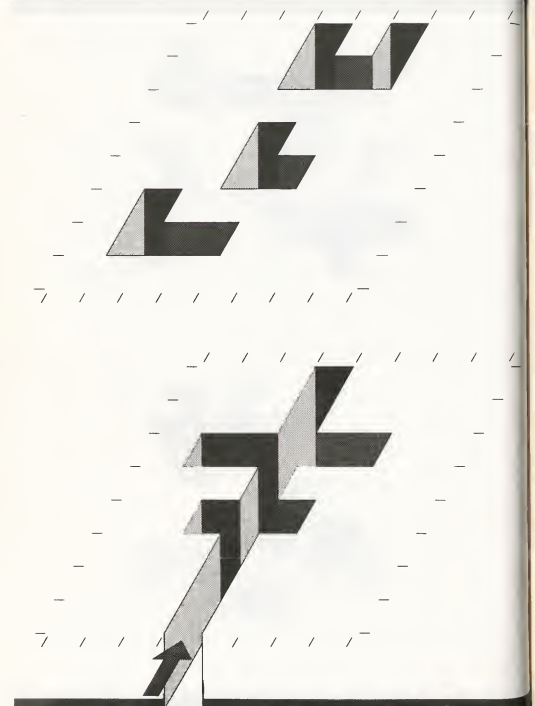
DRAWINGS BY DONALD BEAMON





they are meant to indicate passages leading from one level to another. However, since the papers were found lying in a confused heap, it is

DRAWINGS BY DONALD BEAMON

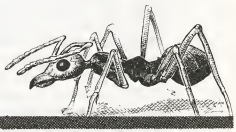


unlikely that the levels appear in the right order. The eight drawings suggest that the cave system consists of eight different levels.

INSECTOLAND®

190894

INSECTOLAND®
INSECTOLAND®
INSECTOLAND®
INSECTOLAND®



INSECTOLAND® is simply the greatest place to take your children, a place where you can relax and admire the wonders of nature at close quarters. This brochure, the original, official guide to INSECTOLAND®, gives you all the details, including a short description of the insects kept at INSECTOLAND®. Treat your children and yourself to a day out at INSECTOLAND®. It's an experience not to be missed!

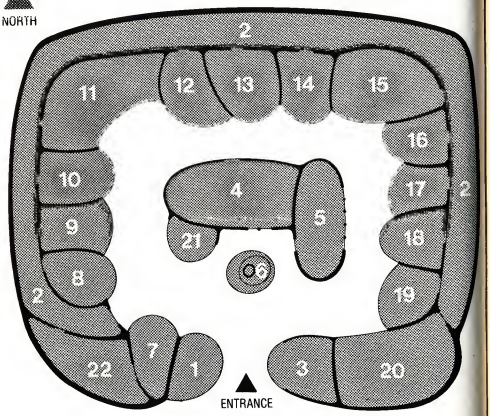
HOW TO GET THERE

No problems! An extensive public transport network will take you right to the centre of INSECTOLAND ® from wherever you live.
Special services are operated by:

- **Local Transservice**
- **Inter-Connection**
- **Aero-Trans**

For more information, contact your local travel agent.

Map of INSECTOLAND®



By a happy accident, the **former gate-keeper's office** was left **undisturbed** during the renovation in 2254 AD. On discovering this, it was decided to leave the room undisturbed, because it was expected that a small room of **curios from the past** would be of **interest** to the public. The large number of visitors has proved this expectation right. The gate-keeper's office is one of the **rarest** non-artificial antique collections in the world. Everything has been left **exactly** as it was found.

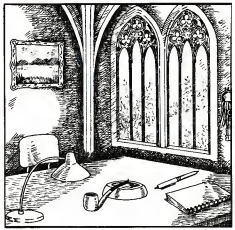
INDEX

1: Former gate-keeper's office. During the renovation this room was left intact. Through the windows valuable antique objects may be seen.
2: Service areas. No trespassing!
3: Electronic ticket office.
4: Restaurant.
5: Relaxation area with the latest vid-games.
6: Fountain.
7: Office. Employees only!
8: Stag-beetle.
9: Spider.
10: Fly.
11: Larva of a Moth.
12: Worm.
13: Butterfly.
14: Weevil.
15: Bee.
16: Beetle.
17: Locust.
18: Earwig.
19: Bloodsucker.
20: Ants.
21: Glowworm.
22: Storageroom.

BUY THE GUIDE!

The former gate-keeper's office

On one of the walls, a bunch of steel objects can be seen. These are so-called **keys,** instruments that can best be compared with magneto-lock cards.
The long object with the bulging extremity lying on the table is a so-called **pipe.** Like its tubular stem, the bulging part is hollow and can be filled with the dried leaves of the tobacco plant. These would be lit and smoke drawn into the lungs by sucking at the stem. After the new moral legislation in 2084 the pipe was forbidden. Our specimen is **extremely** well-preserved.



On the table a **notebook** with an object called **"ballpoint pen"** can be seen. After the invention of the speech transcriptor, the ballpoint pen (and similar writing utensils) went **out** of fashion.
It is now a little-known fact that only two hundred years ago children had to spend a **great** part of their childhood years **learning** to read and write.

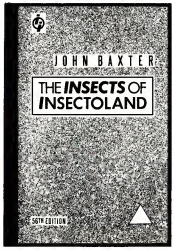
THE INSECTS

BUY THE GUIDE

A practical guide revealing many secrets about the **beautiful** insects of INSECTOLAND ® can be bought or leased in the **ticket office.**

This guide was acclaimed in 2087 as **"Insect Guide of the Year"** – not surprising, considering that the author is none less than **John Baxter!** It is also available in speech (the article code of the micro-compact disc concerned is AA74XY54).

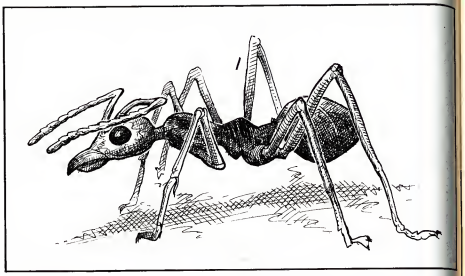
The guide describes **all** the species found at INSECTOLAND ®. To enable you to identify the insects properly, a **drawing** accompanies each description. In most cases the drawings are based on insects actually in our possession. They were produced by **David Spiderfly,** the **famous** authority on insects. Full-size prints may be ordered in the restaurant.



JOHN BAXTER

THE *INSECTS* OF *INSECTOLAND*

56TH EDITION



THE ANTS

The *ant* shown in the illustration is one of the specimens kept by INSECTOLAND. Of all the insects known to mankind, the ant is undoubtedly considered to be the most industrious. It is impossible to imagine the ant ever relaxing. Indeed, unless it is hibernating, the ant works continuously.

Let us start by remarking that there are a number of different kinds of ants. Around the year 2000 there were some 6000 species.

In subsequent years, however, this number fell dramatically and we now have only about 20 or 30 different types. All types have become adapted, enabling them to exist in the cold climate of the northern latitudes as well as in the tropical areas. The species we now know show a remarkable diversity in size. After the growth explosion following the introduction of the *beta2hormone*, the smallest ant (the so-called dwarf ant) is now about two inches long. Elephant ants, on the other hand, are extraordinarily large. In south-east Africa specimens well over six feet in length have been observed.

The species at INSECTOLAND is the so-called *wolfant*. These can be very aggressive, especially the sentinels.

Four different levels or "castes" can be distinguished in the ant hierarchy. Each caste has its own job. The *infertile female ants*, for example, build the nest and take care of the larvae. Some have extremely well-developed jaws and are often seen to devote themselves to the special task of defending the nest against intruders. This category, called the *soldier* or *sentinel* caste, is extremely hardy. Experiments with heavy explosives have shown that most of the soldiers were blown away uninjured, after which they were seen to take up their defensive positions again.

Ants are known to react to all kinds of odours and even communicate with each other through the different odours they spread. Some odours function as a family characteristic, serving to inform the ant whether it is dealing with a friend or an enemy. There are also odours which provoke aggression. Remarkably enough, sentinels have become more or less immune to most odours. They can only be seduced with *honey*. At INSECTOLAND the ants are fed with honey at noon, and it is worthwhile seeing how excited they get when they smell the attendant bringing this delicacy.

Ants are truly remarkable creatures. Their whole life is devoted to a single task. They will never stop – unless a sudden attack rallies them to the defense of their nest.

Finally, we should point out that ants are considered by some to be a hazard to mankind. It is claimed that in some areas ants have formed enormous armies. It is our opinion that human beings have nothing to fear from ants.

However, despite this, it must be pointed out that a mob of 30 ants attacked INSECTOLAND last year in an attempt to liberate the ants held there. Fortunately, our attendant was able to disperse them with insecticide. However, after this incident, our ants have become particularly aggressive and we would therefore advise you, not to feed them by hand.

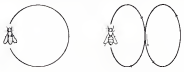
Care should also be taken that children are not allowed to approach the cages too closely.

THE BEE

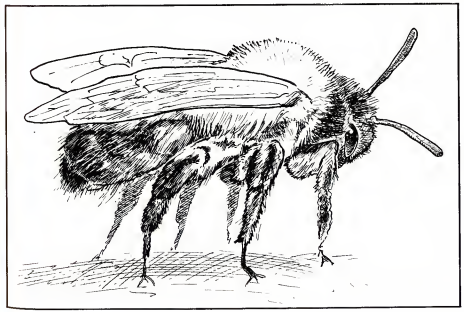
The *bee* has been the subject of intensive research in the past and we are proud to have a number of splendid specimens in our collection. They belong to the *Andrenidae* family, a furred race building their nest in the ground. To prevent escape, the bottom of their cage consists of a massive slab of concrete. The cage is roofed and strongly built for maximum security.

If you look carefully, you will see the powerful sucking organ. Bees have a good sense of smell, so don't be surprised to see this organ sweeping in your direction if you are carrying sweets.

One of the most interesting things about bees is the way they communicate. A common way of conveying information is the dance, i.e. the *circle dance* and the *"figure of eight" dance*.

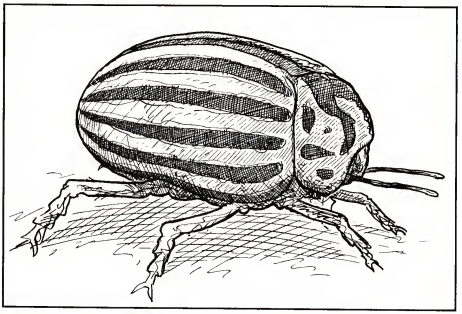


The circle dance signifies that flowers with nectar can be found within a distance of about 80 yards. If the distance is greater, the "figure of eight" is used. The axis of the dance pattern signifies the direction in which the flowers can be found. Our attendant, for example, once took a number of bees to the forest opposite INSECTOLAND. The dry thistles growing there explain the fact



that our bees incessantly do the "figure of eight" in the direction of the main entrance.

Although the bees are not normally aggressive, visitors should be aware of the sharp barb of the sting.



THE BEETLE

Of all insects threatened with extinction, beetles form the largest group. Around the year 2000 some 350,000 species were known to exist. Today there are only three kinds left.

INSECTOLAND is lucky enough to have one of each kind in its possession. The remaining kinds are the *Colorado beetle*, formerly belonging to the *Chrysomelidae* family, the *weevil*, formerly belonging to the *Curculionidae* family, and the *stag-beetle*, an impressive monster once belonging to the *Lucanidae* family.

Contrary to common opinion, all beetles are excellent flyers (for which reason the top of their cages are closed off). The duration of flight, however, is usually short, for beetles prefer staying on the ground. The wings are protected by tough wing-cases. After the growth period following the introduction of the beta2growthhormone, beetles were hunted on quite a large scale for these valuable wing-cases, which were especially popular for making shoes and hand-bags. When it was finally realized that beetles were in danger of becoming extinct, it was too late ... only the Colorado beetle, the weevil and the stag-beetle have survived.

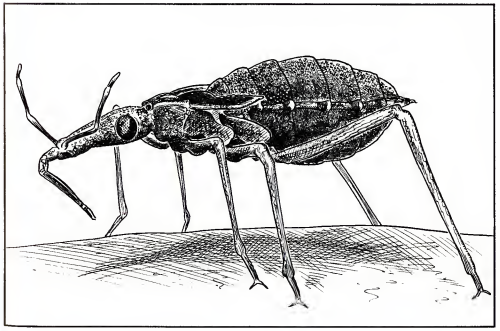
The specimen shown above is *Albert*, our Colorado beetle. He is extremely fond of potatoes, no matter in which form they come, and if you share some of your French fries with him, he will demonstrate his pleasure by raising his heavy wing-cases and beating his wings. This makes a really deafening noise, and may send a hat or two flying through INSECTOLAND.

As you will see, we have constructed a small but nevertheless quite deep pond in Albert's cage. Beetles love water. By pumping large quantities of air between their body and wing-cases, they can spend hours under water. Only by loudly calling: "Albert, French fries!" can our Colorado beetle be induced to leave its wet domain.

THE BLOOD-SUCKER

Of all the insects found in INSECTOLAND, the *blood-sucker* is probably the most dangerous. Although it can stare at you quite innocently with its large, round eyes, its whole nervous system is concentrated on only one thing – killing! Its strong hind legs enable it to pounce on its victim in a single leap. The insect has a strong intuitive feeling for finding the weak spots of its victim. Beetles, for example, are bitten in the areas between the belly-segments. Humans are attacked at the throat. Strangely enough, the blood-sucker rarely devours its prey. This leads to only one conclusion: the blood-sucker kills for the sake of killing. Fortunately they are now more or less extinct. Life would be very unpleasant if one had to live in constant fear of meeting such a diabolical creature.

Blood-suckers used to live in colonies, where a remarkable *sign language* was used for mutual communication. They would greet each other, for example, by raising their right fore-leg at a certain angle. According to some entomologists, the angle determined the kind of message. For instance, it was observed that at an upward angle of 45 degrees, the other party received the message like a soldier standing at attention. A horizontal level, however, was observed to result in the second party moving away in a certain direction. At a downward angle of 45 degrees, the second party would bow its head, probably for better listening.



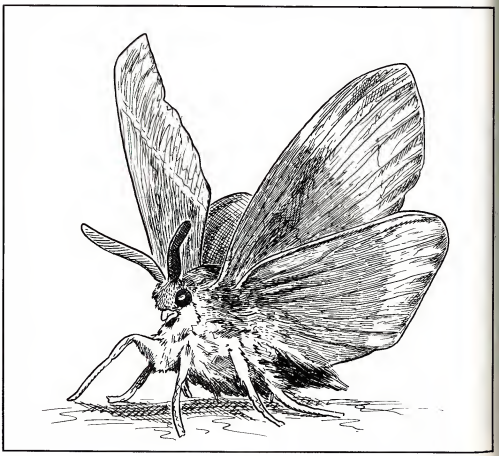
THE *BUTTERFLY*

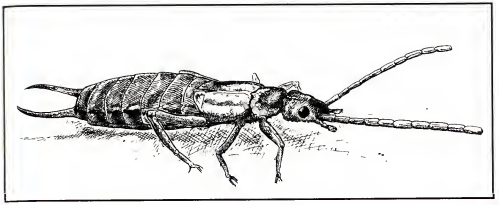
Of all the insects, butterflies are undoubtedly the most beautiful. It is not surprising, therefore, that they are often mentioned in fairy tales. The butterfly's life is very interesting. The many transformations it undergoes – from egg to caterpillar, from caterpillar to pupa, and from pupa to butterfly – are living proof of the miracles of nature.

Although the wings, often of breath-taking beauty, are the most conspicious feature of butterflies, the insect has other characteristics not often mentioned in textbooks – the rolling tongue, for example. The tongue can be used to suck up all kinds of fluids. When not in use, it is rolled up under the head of the insect like a fire-hose. This remarkable organ actually consists of a main tube, with smaller tubes on either side of it. The latter contain muscles which can roll and unroll the tongue with incredible speed.

The specimen kept at INSECTOLAND belongs to the *Lima-codidae* family, and is known more specifically by the name *Lepidoptera exhibitiona*. The Lepidoptera exhibitiona is remarkable in its ability to bring its wings completely together on the forward stroke.

Our butterfly on show is completely harmless. It is fed around noon, the attendant placing a bowl of milk and honey in a corner of the cage. The butterfly sucks up its meal from the opposite corner, the tongue being so long that it can only be completely unrolled from this point. This is well worth seeing, especially for children!





THE *EARWIG*

The *earwig* shown above is a specimen we of INSECTOLAND are especially proud of. Its most striking characteristic is the enormous claw at the end of its slender body. The claw is used during nightly raids on flies and caterpillars. By moving the claw containing the squirming victim forward, over its back towards the jaws, the earwig can devour its prey.

Although the earwig has wings, it only rarely flies. As you will see, the top of the cage is open, but the wings of the insect have been clipped to prevent escape.

Previously, earwigs lived underneath the bark of trees, or under stones. Nowadays its giant proportions make this impossible.

This, together with the fact that the poor creature is constantly hunted because of its terrifying aspects, is the reason that earwigs are now practically extinct.

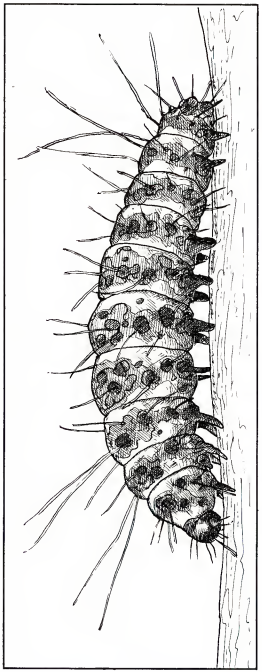
The sex life of the earwig is interesting. During the summer, the insects are usually found together in colonies, in polygamous communities. The winter, however, is usually spent in a hole in the ground with only one partner.

The earwig at INSECTOLAND has learned a number of amusing tricks.

We advise you, therefore, to visit its cage at feeding time.

However: *never put your hands through the bars!* The great claw can cause serious injury.

LARVA OF A MOTH



If you have time, you should certainly go and see the *larva of the tiger moth*. It is quite unique. By applying a special radiation process, we have succeeded in breeding larvae which are completely immune to ageing processes, meaning that the usual metamorphosis does not occur. That means that the larvae never pupate.

The radiation treatment is based on techniques developed by Professor Frühling, a noted biophysicist who did years of research in the field of eternal life. Unfortunately, his techniques are not yet reliable enough for human application. Frühling himself died of an overdose of radiation.

Thanks to a large number of suction pads under their body, the larvae of the tiger moth are excellent climbers. Our specimen, for example, has the habit of moving constantly along the inner side of a flat hoop placed in its cage. It can keep this up for months on end, apparently unaware of the fact that after doing one circuit it is back at the same spot again. It is not unlikely that the radiation processes have adversely affected the intellectual capacities of the insect, which does not even react to the presence of the attendant. The larva is fed by lining the inner part of the hoop with sticky food. Water is placed in a bowl under the hoop.

The back of the larva is covered with a number of antenna-like spines. Normally these are pulled in instinctively when touched. Our specimen does not show this behaviour anymore – probably because it has been bombarded with paper pellets too often.

The larvae of the tiger moth are completely harmless and do not seem to have any natural enemies. From this we may conclude that they have an unpleasant taste.

THE *LOCUST*

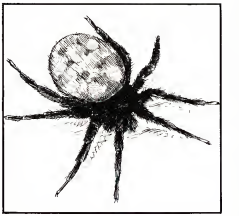
The magnificent creature on the sawn-off tree trunk is a real *locust*. Locusts have a firm, long body and relatively large hind legs. The wings are usually held tightly alongside the body.

Although locusts are not very good at flying, they are exceptionally good at jumping. For this reason the top of the cage is sealed.

One of the remarkable things about the locust is its ability to produce sound. It does this by drawing part of its body (the "rasp") across another specially-adapted part (the "comb"). The latter forms part of the wings. There are two parts of the body that can function as a "rasp" – the legs, and the wings opposite the "comb".

Depending on the musical talents of the creature concerned (as with human beings), the sound produced by locusts may be referred to as singing. Our locust is particularly gifted in this area and has received years of musical training from its attendant. In its best moods, it often sings aria's from Mozart's Figaro. If kept waiting for its meal, it will resort to aria's from Puccini's Madame Butterfly, sometimes even lying prostrate on the floor of its cage. This is quite exceptional for insects, and makes the performance even more dramatic. If angry, it may perform the insanity scene of the Kings of the Night from Mozart's Magic Flute. Last year this was done with such artistic intensity that the insect broke one of its hind legs. Fortunately the leg has healed well, but you will understand that another performance could lead to even more serious injuries. We would ask you, therefore, not to tease this unique insect.

THE SPIDER



The *spider* we have at INSECTOLAND is a member of the *Epeira* family. Actually spiders are not insects at all. They belong to the class *Arachnida* which, although also *arthropods*, have two legs more than the usual six of an insect.

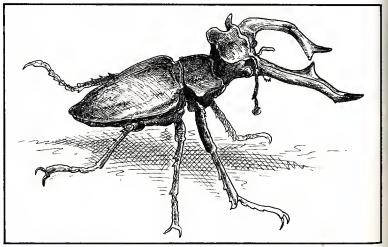
The most fascinating thing about the spider is, of course, its *web*. How is the material for the web produced? Examining the spider's belly, one can find four "bubbles" near the anal opening. These are usually referred to as the "teats". Each teat forms a collective outlet for hundreds of small tubes through which the substance for making the web is released. This means that the single web we observe really consists of hundreds of smaller threads!

The speed with which a web is spun is remarkable, especially if we consider that the spider has only eight simple eyes with rather limited capabilities. To compensate for its bad eye-sight, nature has endowed the spider with extremely well-developed sensors for determining mechanical stress, making it possible for the web to be constructed in such a manner that the mechanical forces exerted on the web are always constant. For the rest the spider has only its natural intuition to rely on.

Our spider, called Rachel, arrived at INSECTOLAND four years ago. She had been found next to the corpse of her male partner, who she had apparently slain after mating. She seemed to be in a very repentant mood, and for this reason we thought it would be safe to let her share a cage with our male spiders – James, John and Gerald. Sad to say, this decision proved fatal to the males, and resulted in quite a blow for INSECTOLAND.

THE STAGBEETLE

Like other members of the beetle family, the *stag-beetle* has wing-cases protecting its wings. Not the wing-cases, however, but the enormous size of the insect and the beautiful antlers on its head are its most striking features. The stag-beetle is a very impressive beast, and can be regarded as the "elephant" among the insects, although the name of some prehistoric monster would perhaps be more appropriate. Most people are unaware of the fact that the stag-beetle is a protected species and this is probably the reason that it is now almost extinct.

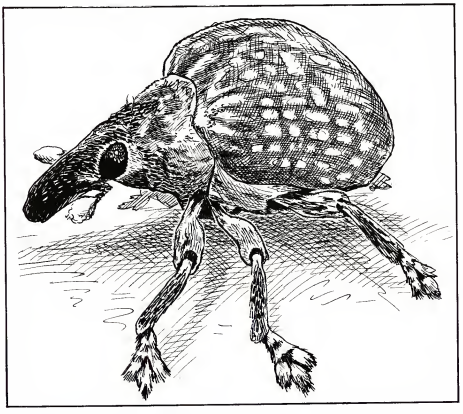


Despite their terrifying appearance, the jaws of the stag-beetle are quite weak and vulnerable. Our specimen, called *Goofy*, is not even capable of chewing its own food, and uses a straw to sip its watery meals through. He can be heard belching from quite a distance afterwards. Goofy is good-natured and completely harmless unless provocated. In that case he can inflict quite serious injuries with his antlers. He is also rather shy of strangers.

THE WEEVIL

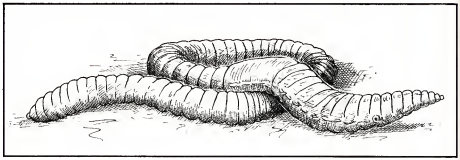
Proudly we present *Bobby*, our *weevil*. This beetle can be readily identified by its long "nose". Actually the nose is not a nose at all, but part of the mouth, jutting out at the end of a rather long head.

Like other members of the beetle family, the weevil has hard wing-cases. They are covered with vague white spots. Originally weevils were strictly vegetarian. Bobby, however, has developed a rather peculiar taste for the dung of the stag-beetle. When the attendant brings in a fresh load, Bobby's first reaction is to dive, nose first, into the heap and wallow. It will not surprise you that after this ritual the white spots are hardly visible.



Although Bobby is undoubtedly the dirtiest inhabitant of INSECTOLAND, he is smarter than you think. Besides the spider, for example, he is the only insect that is able to *talk*, be it in a rather broken fashion. Unfortunately, Bobby uses his gift of speech in a rather dubious way – he tells dirty jokes. It would be wise, therefore, to mind your children when visiting him! A number of committees have been formed recently to deprive the weevil of its natural right of expressing its opinion. Although we agree that there are offensive elements in the weevil's language, we would advise you not to join these movements. Like humans, insects have their natural (entomological) rights!

THE WORM



The animal world is divided into seven main groups. One of these is the *arthropods*, to which insects, spiders, crayfish and lobsters belong. Another is formed by worms, e.g. the knot-worm, the earth-worm, the tape-worm and the leech. Unfortunately, most worms are now extinct. We are particularly proud, therefore, to be able to present a splendid specimen of the *knot-worm* at INSECTOLAND.

Worms used to make themselves especially useful to mankind by digging passages in the soil, so improving the fertility. Since the introduction of the *beta 2 hormone*, however, worms have grown so large that their subterranean passages often caused the ground to cave in. Large areas of London, for instance, completely collapsed in this way. A well-known bridge called "The Tower" also suffered this fate, and for some strange reason ravens have been flying over it since. Inevitably, the worm quickly found itself on the list of dangerous animals. This, together with the great soil pollutions in 2010 and 2015, resulted in worms becoming more or less extinct. Within seven years there was hardly a worm left.

The specimen kept at INSECTOLAND is a knot-worm. The name is derived from the worm's curious habit of tying itself up in knots. Our worm is particularly fond of this trick, having once tied itself up in such a complicated knot that only with the greatest difficulty could the keeper untie it again.

Once a week the worm is fed with its favorite dish – vermicelli. It will not eat anything else.

Despite the fact that newspapers have reported a number of inhabitants of Goose Bay in Northern Canada being strangled by a knot-worm, we can assure you that our specimen is completely harmless.

The Ant Nest

By George Baldwin

This paper is a study of the structure of the ant nest, a wonder of nature that pays tribute to the social behaviour and highly-organised collective effort of the ants.

Significant changes have been observed over the past 30 years in the way ants build their nest. One of the main characteristics of ant nests about two hundred years ago was that no clear structure was evident in the tunnel system. The ants simply started building without any definite plan. This is in sharp contrast to wild bees, which always built well-structured nests.

Due to the absence of a plan in these earlier ant nests, the tunnel systems usually formed structures similar to Gordian knots. This is shown in the following illustration by the well-known French ant specialist Jacques Fournière. The sketch was made as part of his famous research project of 2032.

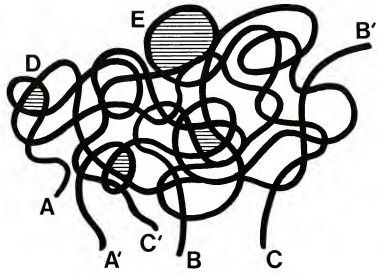


Fig. 1 Sketch of ant nest made by Fournière (2032)

The disorder is quite obvious. The nest depicted here was found south of Stockholm. The shaded areas represent special chambers or compartments. In compartment D the ant queen was found.
Compartment E contained an enormous supply of honey, the ants' favourite food.
Fournière explains very elegantly how such a nest is built.
Essentially, teams, or even single ants, start digging randomly.
To illustrate the effect of this approach, the paths of three separate tunnels with starting points A, B and C are traced in the figure below.

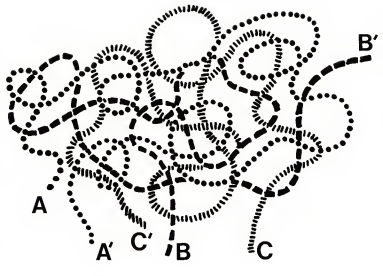


Fig. 2 Ant nest of Fig.1 with three distinct routes marked.

The figure shows that the entire nest comprises the three separate tunnels A - A′, B - B′, C - C′. A more detailed study of tunnel A - A′ is shown in Fig. 3.

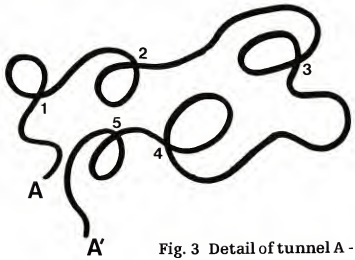


Fig. 3 Detail of tunnel A - A′

As can be seen, the tunnel forms a continuous line. Occasionally the tunnel crosses itself (at points 1 to 5). It is noteworthy that at these points the tunnel simply continues. Constructions of the kind shown in Fig.4, for example, never occur.

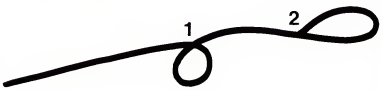


Fig. 4 Loop construction

A curve like the one shown in Fig.4 would imply that the ants had stopped digging at point 2. However, this is very unlikely. As Fournière points out, the tunnels are made by digger ants whose sole purpose in life is to dig, as the sentinel ant's is to guard.
For a digger ant to stop digging would be a completely unnatural act and therefore most unlikely to occur. In fact, no such constructions have ever been observed.
As mentioned earlier, the shaded areas of Fig.1 represent compartments. It is difficult to say why these compartments, which lie between a number of tunnels, are dug. According to some authorities, the compartments owe their existence to the fact that mutually crossing tunnels so weaken the total construction that part of it caves in, thereby forming a natural compartment.
This explanation seems unlikely, though, because statistically compartments would sometimes have to occur in close proximity to each other. This, however, has never been observed.
The remarkable structural differences found between recent and earlier ant nests has already been remarked. Mackruder observed several cases where

secret compartments had been constructed. The figure below shows an example:

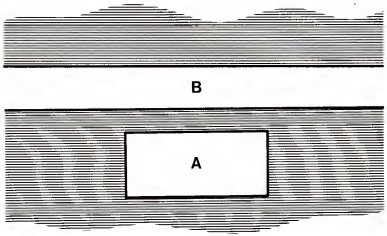


Fig. 5 Secret compartment construction

In this figure, B represents a tunnel. A represents a secret compartment that apparently was dug first and subsequently sealed with a mixture of formic acid and sand. These compartments are used for storing things that are not directly needed but which, nevertheless, are of great value to the ants. Among other things, Mackruder found large amounts of bilberry jam here. On one occasion he even found objects that could only have been left behind in the forest by human beings.
Recent research shows that the nest structure has improved in the course of time. A typical example is shown below.

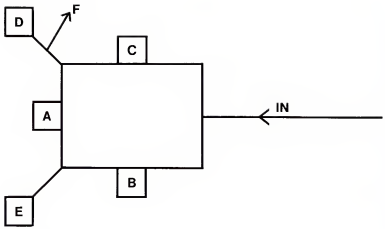


Fig. 6 Improved nest structure

As can be seen, the nest has only one entrance, leading to a more or less closed circuit, along which several secret routes are found (e.g. A, B and C). Often there are smaller circuits inside the main one, but for the sake of simplicity these have been omitted in the figure. At the far corners, open compartments or chambers may be found, where important supplies are kept or where soldier ants can rest. In the figure a branch is shown at F. These branches lead to important compartments. Notice that they can only be reached by a single path. Usually these paths are guarded by the strongest sentinels.
Last year a wolf ant nest was reported to have been found which contained doors that could be bolted at one side (Fidderley et al, 2255). Of course, incredible reports like this can hardly be taken seriously. If the report is true, it would mean that the ants now have tools at their disposal. Bruckenbach, of the University of Berlin, rejected this possibility after carefully investigating 4236 nests. Montaigne, of the University of Montreal, studied the feasibility of bolted doors using a simulation model, and arrived at the same conclusion.

Playing This Adventure-Game

In order to simplify the task of understanding the human language, a number of rules are built into the program. These rules are now described. This is followed by a detailed discussion of the various commands.

1. Commands are executed when you press the "carriage-return" key.

2. The first word of a command must be a verb or a direction in which you want to move. For example, the command:

   I GO WEST

   will not be understood. The following examples will be executed correctly (if possible):

   GO WEST
   NORTH
   TAKE THE LANTERN

3. Words may be abbreviated to only one letter. But be aware that in doing so, you take the risk that the parser recognizes another word that has the same abbreviation. For example the parser knows the words WEST and WALK. If you use the abbreviation W as a command the parser will act upon this command by taking the first word with a W stored in memory; in this case WEST. It is clear that if you want to give the command WALK you must enter at least two letters.

4. If the parser requires more information it will ask for it. If you, on second thought, don't want a command to be executed you can skip it just by entering the carriage-return only. For example, if you have entered:

   GO

   the computer will answer:

   GO..?

   You may now enter a direction:

   WEST

   In this case the command GO WEST will be executed. If you enter only a carriage-return the command will not be executed.

5. You may repeat the last command you entered by typing in *. For example if you have entered:

   KILL THE WORM WITH THE SWORD

   and the creature did not die immediately, you can continue your attack simply by entering: *

6. The parser recognizes a maximum of three words within one string of commands. You are free to enter more. For example:

KILL THE VICIOUS BEE WITH THE OLD SWORD

has the same effect as:

KILL BEE SWORD

The Commands:

Details on the specific commands that can be used are here discussed.

Moves: GO, WALK, RUN

There are several ways of changing your position. You can choose between commands of one or two words. In the case of a one-word command this word must be a direction. This may be: EAST, WEST, NORTH, SOUTH, UP or DOWN. In the case of a two-word command, the first word may be one of the following verbs: GO, WALK, or RUN. The second word must be a direction. The command CLIMB is only useful for climbing an object or a creature and is a two-word command. Examples:

UP
RUN EAST

Objects: EAT, TAKE, GET, DROP, LIGHT ON, LIGHT OFF

In order to handle objects the parser recognizes four words: EAT, TAKE, GET and DROP. With all these verbs you have to specify an object. Otherwise the parser will prompt for more information.

In dark surroundings it is also important that you are able to make light. If you are carrying an appropriate tool for this purpose it is sufficient to give the command LIGHT ON for making light and LIGHT OFF to extinguish it.
Examples:

TAKE HONEY
EAT THE KNIFE

Doors: OPEN, CLOSE, LOCK, UNLOCK

To handle doors or gates you must use: OPEN, CLOSE, LOCK and UNLOCK. With LOCK and UNLOCK you have to indicate the tool to be used. For example:

UNLOCK DOOR WITH KEY
CLOSE GATE

Creatures: KILL, ATTACK, CLIMB

You may want to get rid of some creatures. In this case you can run away or try to kill the creature. You may use the commands KILL or ATTACK. If you have a tool for this purpose you must also enter the name of this tool. If not the parser will assume that you want to kill the creature with your bare hands which will make your attack less effective. For example:

ATTACK THE WORM WITH THE KNIFE
ATTACK WORM

Miscellaneous: SLEEP, WAIT, INVENTORY, LOOK

From time to time you may think that it is useful to SLEEP or WAIT. With these two commands it is sufficient to enter just the verb. However, you should realize that the world that surrounds you will not remain in the same condition. This can be to your advantage or disadvantage, depending on the situation. To get a description of your surroundings you may use the command LOOK. With the command INVENTORY or just I you will get a list of the things you are carrying, the amount of weight you can still carry and the number of wounds which you can still survive.

Game commands: LOAD, SAVE, RESTART

The command SAVE saves the entire situation of all persons, objects, etc. to be loaded again when you want to continue playing from a particular situation.

The command LOAD loads a previous situation. After loading, the play continues from exactly the point where you saved it. In both cases the parser will prompt for a name.

The command RESTART restarts the game from the beginning, so you can start all over. This is all you can do, if you are killed by a creature.

The Construction:

This adventure is rather a large one. Were it written in BASIC, it would probably not fit in your computer. Therefore it has been necessary to encode large chunks of the program.

Unfortunately this creates problems. The encoded parts must be typed in in some form. To help in doing this, we have devised a way of making the code check itself, so that although you do not know exactly what you are typing, you need not worry about making errors; the code is error-detecting.

We have divided the work into several sections. We suggest that you take only one section a day, which should take you an estimated 1.5 hours. In this way we hope to prevent strain. Of course you may do it all in one day, if you like.

Monday

The job consists of seven sections, called, not surprisingly, after the days of the week.

Every piece will be introduced with a short commentary, telling you what your homework is for that day.

Before you begin, however, we want you to remember:

— Do not be too afraid of making errors in the code. It is error detecting, and the chances of an error remaining undetected are very small - much smaller in fact than with BASIC programs. Only errors in one line will be detected, so be aware of duplicating lines. Duplicated lines will not be detected!

— *Always make a backup immediately after you have finished a piece of listing.* If you have a disc-drive, make a backup when you're halfway. Nothing is more frustrating than doing a job twice.

For Monday, you get three listings: one in BASIC and the other two in code. In fact, the BASIC listing is the decoder for all the following pieces of code.

First type in the BASIC listing. This is a very important job! Check the result thoroughly when you have done it. An error in this program will probably mean that you will never get your adventure to work.

Next, make a backup.

```
 10 REM BBC Decoder
 20
 30 PROCinit
 40 add%=beg%
 50 REPEAT
 60   PROCnew_line
 70   PROCdecode_line
 80   PROCchecksum
 90   UNTIL add%>end%
100 END
110
120 DEF PROCinit
130 VDU 15
140 READ line%,in_bas%,n_code%,nob%
150 READ out_bas%,beg%,len%
160 end%=beg%+len%-1
170 n_code%=n_code%-nob%
180 ENDPROC
190
200 DEF PROCnew_line
210 READ line$
220 code%=0
230 sum1%=0:sum2%=0:now%=FALSE
240 check2%=FNnext_char
250 check1%=FNnext_byte
260 line%=line%+10
270 PRINT line%
280 ENDPROC
290
300 DEF PROCdecode_line
310 LOCAL off%
320 REPEAT
330   PROCadd_byte(FNnext_byte,add%+off%)
340   off%=off%+nob%
350   UNTIL code%=0
360 add%=add%+off%
370 IF off%<n_code% AND add%<=end% THEN PRINT"Error at ";line%
380 ENDPROC
390
400 DEF PROCchecksum
410 IF sum1% MOD out_bas%=check1% AND sum2% MOD in_bas%=check2% THEN ENDPROC
420 PRINT"Checksum error in line ";line%
430 ENDPROC
440
450 DEF PROCadd_byte(byte%,add%)
460 sum1%=sum1%+byte%
470 IF nob%=1 THEN 510
480 ?add%=byte% DIV &100
490 byte%=byte% MOD &100
500 add%=add%+1
510 ?add%=byte%
520 add%=add%+1
530 ENDPROC
540
550 DEF FNnext_byte
560 LOCAL char%,byte%
570 IF line$="" THEN 640
580 REPEAT
590   char%=FNnext_char
600   IF now% THEN sum2%=sum2%+char%
610   now%=NOT now%
620   code%=in_bas%*code%+char%
630   UNTIL line$=""OR code%>out_bas%
640 byte%=code% MOD (out_bas%+1)
650 code%=code% DIV (out_bas%+1)
660 =byte%-1
670
```

```
680 DEF FNnext_char
690 LOCAL char$
700 REPEAT
710   char$=LEFT$(line$,1)
720   line$=MID$(line$,2)
730   UNTIL char$<>" "
740 IF char$<"A" THEN =ASC(char$)-48 ELSE =ASC(char$)-55
```

The program you have now, named decoder, will be a base for most of the other programs. This is illustrated by the code sections for today. The correct procedure is:

1. Load the decoder into your computer.
2. Add the lines of code to this program.
3. Save the resulting program and code.
4. Run the program. You will probably have made some errors in the code which will now be detected. The line number of any line where an error occurs appears on the screen.
5. Correct any error by comparing the faulty program with the original listing and changing the listing accordingly.
6. Repeat steps 4 and 5 until no errors are detected. The code is now error-free. Save the result, taking care that any previous backup (made in step 3) of this part of the code is deleted, to prevent confusion with the correct version.

Both the code listings of today must be processed in this way; that is, they must be typed in as separate sections. Follow the procedure described above once for each section.

For the enthusiast: One code section for Monday contains all the data arrays used in the adventure: an array of all the rooms with their exits, an array of the objects with their locations, etc. The other section is the only part that actually contains machine code. This machine code uses all of the remaining code as input.

```
 990 REM Monday 1
1000 DATA 1000,36,29,1,256,12032,1564
1010 DATA 500L 1PJZ AKMQ AZC5 UT06 U3KI NIT7 71G6 JARI KP0A JV6R ODL2
1020 DATA T006 D9JA NXQ3 CAIZ K7N6 E695 KJ0A GR0E ECXK R0AH V7NG 6JW2
1030 DATA 7001 0227 FTSZ LBSD 2K3A ZQ5V G001 V3JO QPYO 5VI4 S4HA 91PY
1040 DATA C00M MKP0 AGZE 8C3F 2FYM 7RDP 3ANG IFAE HPG3 WFFA L046 5PDT
1050 DATA X006 IHIE 02X8 8AC3 EYS0 MVD6 ITJS A4T0 XWFB AL2P Y80C 42HX
1060 DATA 700Y IHWJ SAVA L25A 2JCP 4503 3ZNV HU1W S4WB P470 336Z G6H1
1070 DATA Q00M MYVP AHRH SUGX A3F2 AGYV PHIS 51A8 5KJ0 AIRL TQDC CPA0
1080 DATA K000 C5IP Y3F9 J5L6 0AHO E82C Q3FC OK9J 9Y6N 4WDQ XAJB YZ0U
1090 DATA 3000 1GXD G6DG GDGQ DH0D HAGL 1S9A D41S 0DLD BEJD 7PYR TK5O
1100 DATA 3007 07SO QMYO 5V54 S1H3 4OIT AZLV 39OQ QYO5 O3RD P3HH 3HUT
1110 DATA D000 D370 HE4H 0UL6 RDP3 9ZWC 1QW3 ZYZ5 0QYY 780W 360L ZE0R
1120 DATA U00V CQWY X9N6 351U RW36 UQL2 R6K7 330M QDZ0 6TFS TTPM O076
1130 DATA 000K NY7S 34BC FVWT YZ5U SVOQ D07T 6FZ0 WRP8 V3ZN RZ4G B7D5
1140 DATA 1004 TMDL D02K WVEA 0K65 D28G 6Z3E PSCF A9PH 04SA 06M3 8HK9
1150 DATA I001 EZQL P2EW Q1UR W36U QZC3 6SVL C2EK QN90 080M PDZ0 6TFQ
1160 DATA B008 I08B 7DUS WKZU 46PI OBQR 00Y7 4VLB 2EKQ N900 8PIR IVEY
1170 DATA N001 P2S0 DODN HLC0 0D73 3FKT IGA4 8RIH 70Z3 1W77 VLB2 7FK6
1180 DATA 7008 0EWQ N900 82AH V5WD TYEI 2CSV KHDZ IL2R 6K73 9H00 HFU5
1190 DATA F004 ARKS 70EC Q3R9 65LB 33GP IPCE WQSU UIG9 IIMM 187E 91WH
1200 DATA N00J Y6LO 0MRY NZ15 NTRD P3U9 B7AK I2RW 4IBF 34EC FA9P V2PV
1210 DATA V00J NWFB 0SA6 E5U0 UXGS RY34 F4BG 08KS W9T3 ESTI P73F 8W19
1220 DATA X006 2ANM AI8B DIDB KVN3 F1UO KTZP ZPZW VA8P 6QCH XH3P 40E6
1230 DATA E00C R0LW NGBQ J3XE SMZ2 8J3F 905D E42T VOJ2 HNPI G6BS 8P9Q
1240 DATA D00U FYI5 9H99 W678 9XYS 19NS 09XR VOZA 391Z RJPE GJ40 ICNG
1250 DATA 400V 98MQ WCGW YU34 LCFO RKZ1 5NZW 2P6H F65D DB9Z CCLD D7EE
1260 DATA 4002 UCUY IUYO UYRU YXUR ZVS7 VSAV 4WH3 Q7HC TDS9 V68J 4V7X
1270 DATA 500B R8CA TWJR W4WM 4WHQ XG6E S7M2 4ZET YM47 31WU JJR9 HZMP
1280 DATA 6000 2XXZ 28HI WUNT QD8F SLRS 4HZM MEJH A1WX TQMU O4DJ M98V
1290 DATA B00I 698V ZDU7 J85P V2KH ZGUW B34B GO2O 3YZ8 HZFP 3E07 9F16
1300 DATA E00B 43ZX A22P T71V 9491 PHST H3G9 8Z7L D3ID X23X 2763 7QK8
1310 DATA O001 TFCL P2DA CF9H W4ZF 3DSW EPS5 GRQ7 BQL3 X0LG U7RK AEL2
1320 DATA S003 KP0A IZEV S3F2 HWRP 83D7 EUS3 NRW7 HWBE 086K 30LY TP84
1330 DATA P001 31VV FZ45 VM4S UXA9 5IG7 BSGF 1DZ2 1A7E BWEW ST6W 7GA5
1340 DATA D00B O7HG 6JHW BL50 AJM6 VHEJ H0ES AVBH 4P23 LR2G QR0M VD6U
1350 DATA R005 S2MZ 45VM 4T1X A954 65ND VMWL TULB 261Y SPFK 1X80 DP04
1360 DATA B001 HES5 YK04 RRVW OL03 BP3Q DCKY BPH3 ZGJK UU0Z Q5TJ RR5C
1370 DATA 1001 D127 AAEG HW30 BB0B OFVS 9LL4 TZ57 V4WC 42F3 SBKD LIL9
1380 DATA 2000 8TIP SP28 LR2K BRUE N0BD OVDC FUGW VWZ7 6ZEQ SP20 0COQ
1390 DATA D001 9ID3 IDY2 8DH7 43EO SPY0 7HLM EDY2 TO4S VX8K Z7ND 3IL2
1400 DATA V006 N5ED W231 6ZQ7 U5V9 G3EW S2MU ZGRZ C315 EBWE WS6E YAPB
1410 DATA F008 07FM AEDX 2E28 6M3E USAV XZ7D Y2N7 9T6X WHBM ER82 YI1X
1420 DATA C005 OUD2 5IEB SJSF 52CS 8RTW KUUS BUP2 D0CU W9G0 S3DF 76Z8
1430 DATA F001 I8SX UUPY 50C2 7E3X B01V HZ2C Q3FE 31E7 6ZEX SCNQ UBL6
1440 DATA 900X QITD ZF37 BZ0O DE8L 5WVX ZUWC A943 QCUU OIWA I37W K860
1450 DATA F00X YH0I 6VZ7 8R3O U3OZ 45OH BKWK AULQ 6Z3Y KJRD NVOV 2KS4
1460 DATA V008 CAP6 0ME6 24PF VZEL QL6T VVMZ 45VM 4T1X A95I G65G S57Y
1470 DATA 2005 5IEZ PXKS QQT9 0CPP 93T7 LQSZ DU6V JMP0 QJUJ BRZB RZBL
1480 DATA K000 01MM KE06 E07H J7E0 ZSB6 E07E 17E0 8E18 E09E 1BE0 AE1C
1490 DATA 2000 01JO BE1D E0CE 1FE0 DSB7 E0EE 1HE0 FE1I E0GE 1KE0 HE1L
1500 DATA 6000 01KV IE1M E0JE 1NE0 KE1O E0LE 1PE0 ME1Q E0NE 1SE0 OE1T
1510 DATA 6000 01I8 PE1V E0QS B5E0 RE1Y E0SE 1ZE0 TL60 E0UL 61E0 VL63
1520 DATA K000 01K8 WL65 E0XL 66E0 YL67 E0ZL 78L5 0L79 L51L 7AL5 2L7B
1530 DATA Y000 01NS 3L7C L5EL 7OL5 5L7F L56L 7GL5 7L7H L58L 7IL5 9L7J
1540 DATA T000 01PE AL7K L5BL 7LL5 CL7M L5DL 7NL5 4L7D L5FL 7PL5 GL7Q
1550 DATA C000 01LR HL7R L5IL 7TL5 JL7U L5KL 7VL5 LL7W L5ML 7XL5 NL7Y
1560 DATA G000 0000 00DY FI8F T6FJ 8FU6 FK8F V6FL 8FW6 FM8F X6FN 8FY6
```

```
 990 REM Monday 2
1000 DATA 1000,36,29,1,256,13596,2033
1010 DATA Z000 01H3 6E06 E06E 0GE9 FE88 E0KE DAEE 6ES6 E06E 06E0 6E06
1020 DATA A01H E6E0 64W2 YAW4 GC1S 4NOD 4NM7 BZ65 82Y5 WP6Q Q9IG 2CNH
1030 DATA G001 4X2I WPNR I5UF 88L9 KE2A FN8L 9IE1 AFB8 E2U6 WXWY JYM2
1040 DATA J000 0HDS 0DWD D6LS E294 EJYL BSIR SPS0 EXHH S1DR ZIRZ BRZB
1050 DATA L000 01GR 9E1E E06E 06E2 6E2F E06E 06E3'BE0G L51E 06E4 CE4H
1060 DATA I000 0BTE 06E0 BE0B EC6E 06E0 CE06 ED7E 06E0 DE06 E08E 06SA
1070 DATA 0000 0BIE A6EF 9E06 E0FE 0FEG AE06 E0GE C6EH BE06 E0HE 0HEI
1080 DATA Q000 1LH2 E06E CKE0 6E76 E06E DLED QL54 E06E E604 KIU6 XG69
1090 DATA G000 01EK NE0S EA6E 06EG OEG6 LG3E 06EH 6EHU EC6E 06EI QE0V
1100 DATA X000 1N77 E06E J6EJ WEE6 E06E KSE0 XEF6 E06E LTEL Y06J XLK8
1110 DATA 3000 1G7U EMZE 06E0 6EN6 LS0E I6E0 6EOW E06E J6E0 60FR TA5Y
1120 DATA 5000 1IL6 E06E QYEQ 6LQ6 E06E R6T1 WEM6 E06L X0E0 67IX WQY7
1130 DATA H000 01IF 6ET6 LT8E 06LZ MMQP E06E 46EV 6E06 L5LE C6EW 6E06
1140 DATA 1000 1RBK EH6E X6L5 CMCI EE6M 3AE0 6E06 EF6E Z6E0 6L5E ER61
```

```
1150 DATA 5000 01GY 6L5B E06E J6F1 6E06 M8GE U6F2 6L5B E06E 06F3 6EZ6
1160 DATA L000 1P4J E06F 46E0 6M6H E06F 56E0 6EY6 E0MF 66L5 4E06 E0MB
1170 DATA I000 01GQ 6E06 E06F 06MD GE06 L5OE 06F9 6F96 E06F 26FA 6E06
1180 DATA 8000 1HQ6 MAIF B6E0 6E06 EY6F C6E0 6E06 F46F D6E0 6E06 EX6F
1190 DATA 4000 01K9 6FH6 E06E W6FF 6EV6 L5UL 5ZML LE06 E06L 53FH 6E06
1200 DATA D000 1KP6 F96F I6E0 6M0Q L5ZF J6E0 6E06 TT0M P1E0 6MRT L5ZM
1210 DATA H000 01EO 6L5R E06L 5ZFM 6E06 E06F L6FN 6E06 E06T Q0MT WE06
1220 DATA N000 1YW6 E0EF S6MU XE06 E0EF U6L5 YFQ6 E0EF X6L5 ZFR6 E0EY
1230 DATA U000 01U2 2FU6 FS6E 0EMY ZSA1 E06E 0EFU 6E06 FU6S AMFV 6U33
1240 DATA 9000 1TKB E0EF S6E0 6FW6 SAMF V6E0 6FZ6 E0EU 66SA 4SAF E0ET
1250 DATA 5000 C3SA 5E06 L5VL DYE0 6W6B E06S I4G3 61RJ XL5Y O83G U1B5
1260 DATA R000 1KM6 E0EF T6SA 9E06 E0EF W6UD CE06 FWEF S6E0 6G56 SAMX
1270 DATA M000 7KGB 6E06 6VXW YLTL MFP6 9RRZ JTRB RZBU 7BTY JTR8 RZBC
1280 DATA I000 1H76 SAMU 6ISA GE06 E0EU 4KGB 6GD6 E0EF T6SA IE06 E0EX
1290 DATA S000 DISA IGF6 GL6L DYE0 6SAK E06U Q1E0 627J XL86 O81T RZBH
1300 DATA U000 1GA6 E0EU 4QUR PE06 E0EF T6E0 6GI6 E0EF W6GI 6ZF1 E0ET
1310 DATA M000 7VGM 6E06 SAKL DYUY RGN6 E067 3ZPQ JXLB KG69 RTUB ULBQ
1320 DATA P000 1FB6 E0EF U6SA UZF7 E0EF S6SA XES6 E0EF P6SA YGQ6 E0ER
1330 DATA H000 0ACE 062J MOL5 YOF4 6292 GS6E 0EU1 ZE06 ZFCE 0EFS 6GT6
1340 DATA 2000 B0SA QLDY E062 PMQL 5YOF 49RZ BRZB RZJ1 B5GX 6E06 E0ER
1350 DATA 4002 2S69 TBEH 5YG6 H22G 5E06 HB6L DYZF 6E06 E00L YLPL RDJ0
1360 DATA F000 C3E0 6LDW 6VXW QMZL K8WF 9GRZ BRZB RZJT VBV3 B2LL E0ET
1370 DATA Z000 0GDR ZB2K DZF0 LDYE 06H6 6E06 73ZS QJXL 97G6 9R1A GZFE
1380 DATA K000 YL5Y G6H5 2RFE 017Q JXT7 RGDE LRZB UZJT R82P JZFQ E0ET
1390 DATA T000 77E0 6ZFI E06U Q1ZF LE06 HO6L DYHE 6HG6 E011 YLPL RDXG
1400 DATA Q002 SYBR ZJ1C O6VC H15Y G6H5 2YN6 VCHB 5YOF 6V2X RE06 E0EU
1410 DATA J000 08FZ FPE0 6ZFI 73ZO QJXL 9HG6 9RTU BVMB RZBR ZJ1A SZFU
1420 DATA 9000 ASE0 6SI0 E06Z FTZF K73Z OQJX L9OG 69R1 AXZF VE06 HIET
1430 DATA G000 03QJ 3VPB RZBR ZJTW B36Z E06E 0EFU 6E06 HS6S AMFV 6E06
1440 DATA Y000 EORZ BRZB RZBR ZBRZ BRZB AH9A TZXQ JXL7 X8VV BRZB RZB3
1450 DATA E000 3LOB AG53 SJXL K8GO J9AQ 66VX WQ0I IOIA VXBR ZBTZ B6K8
1460 DATA O002 Y7BR ZB8L 6AXG FM5Y G69B AGB3 UJXL 5YGM MEW8 BW4B RZB6
1470 DATA R004 YPJK JFRZ BRZB 8053 YOAL 5YG6 9LWA BASG E06S AEB4 GORC
1480 DATA E002 UYBR ZB8T AB6G PV5Y G69H ATDI B66V XWQ0 PPOQ JW9B WBBC
1490 DATA J001 FE6E 06E0 27QY 7X5Y 0AZC E06S AJKP 6E06 E06S AKBC O24E
1500 DATA O002 TFBR ZB8Z LIU2 EQJX LK8W KJQI 9A6V XWQ0 ZZKJ WWFB RZBJ
1510 DATA 5000 02TX BWHB WEBR ZBUI BRZB WGBR ZBUJ BRZB WHBR ZBUK BDP0
1520 DATA 6000 2UEB RZBW LBYP BRZB RZBU MBYQ BRZB RZBU NBYR BRZB RZBQ
1530 DATA 7000 079E 06KW 6E06 SAWK V66V XWQJ XL8P 5RZB RZBR ZBNM ZE06
1540 DATA J002 TCBR ZB9D M6VO H75Y GDE5 YPBI L06V XWQM S7RO 8WUB RZ8W
1550 DATA 5005 OZ8R O9WV BRZB GK5E 064N JXLR DBWO 9RZ2 E06Z F2E0 2VQ2
1560 DATA S001 JM6E 06GX 6DQO MN5Y GDE8 RZ0J 12ZQ JXLB VGYH DX3B RZBY
1570 DATA B00C HJ36 47JX L5YG UMHY WBRZ BRZB GOD4 VJXL 5YGD EBJ9 C4YE
1580 DATA 9002 UGBR ZBV0 BDPF 4XJX LRDI X0LJ 0EE0 6ZF9 C4XW QJXL RDL5
1590 DATA G000 1KL6 6VJM U5YG GLFD PFE0 66V5 CT92 AJ8D JF6E 06H5 6KZ6
1600 DATA V002 XJBR ZBV5 BJ6J L06E 06A0 XWQQ XL5Y GDEH XE45 9JXL 5YG6
1610 DATA 5000 4B19 RZBR ZBRZ BGVJ 6VQR 25YG DEGJ AD6V XWQJ XL1V 3J9S
1620 DATA 2001 E46J P6H1 66VW E65Y GDED XNBD PSE0 6ZFD E03J QJXL YI09
1630 DATA S00F MRZB DPXJ L6ZF 8CMW HBBO G69Z GYXC MWHA 5YGD EKDP R5JW
1640 DATA 5004 0J5R ZBV9 BRZB XRBR ZBVA BKU0 5KCS 8DEN QQ15 IPSL 5YGE
1650 DATA 500G 9QP2 JX3S QJXL 268Q S2JX 6E06 HD3T QJXL BXGD EPQW 9DW1
1660 DATA 8002 Y7BX XBVE BKU5 E06E 0636 JXL5 YCRZ B3FN E065 VPWL 5YGJ
1670 DATA 3000 FARZ BQZ5 6VXW QNGL 5YDR ZBRZ BOE8 K36L 26E0 6HLL E26A
1680 DATA 8000 JFS9 RW0C 70HE KM3V R71A MSRO 1S1B WSH6 KVE4 65KR C1BT
1690 DATA T002 SJRX YVE5 J6XC HYHH DPEY EN2B JK4I HSEW R4EN 8PX4 J12N
1700 DATA D000 6NNK HTEV LGEO N586 NT4I BJ4M 0QIR HZTG Y3VS 0CS0 CS0C
1710 DATA S000 097E 17E1 7E18 E18E 28E3 7E47 E58E 18E1 8ED8 6XXX WK0S
1720 DATA Y000 0A1E 77E8 7E9B EA8E B8EC 8EC9 EC9E C704 R30N TG9U CTXC
1730 DATA O000 0000 0000 0000 0001 EM60 13YI KJRW F946 2BWY CBRZ BRZJ
```

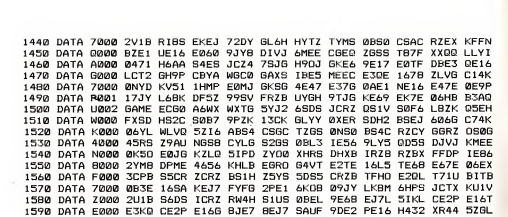
Tuesday

In the next five days you will be typing code listings only. This must be done following the procedure described on Monday.

Take care that you do not save new sections of code over previous ones, and keep track of where you save all these sections. It may be a good idea to save everything on two cassettes, to prevent disaster.

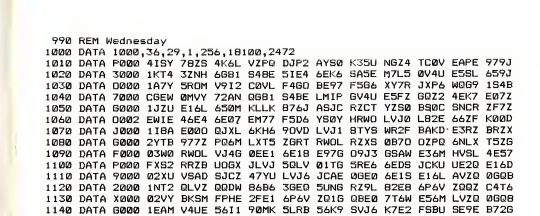
For those interested: The code for today is the start of the actual program, written not in BASIC, but in a specially constructed language which we have christened *ALADIN*. The code defines all the commands. Of course you cannot use any of the program yet.

```
 990 REM Tuesday
1000 DATA 1000,36,29,1,256,15629,2471
1010 DATA 2000 15XR 3NYI 0VPN S8BR ZBDP ME46 FYOE 17SB 4EJ7 E271 OKHM
1020 DATA T000 01JK 7VV9 FY7E 16SA 4E27 E06F Y9E1 6SA4 EO7E 06JC 7E06
1030 DATA 5000 0IXR ZES0 CRZ8 UKBA 48QL N6VX ZRJY LS6N 699S 0CSH CTXD
1040 DATA 7000 0D3E J71O K0M6 IHLH RS0B 6L8E 09E2 7E06 I26E 2UE1 6SBM
1050 DATA E000 24VR 1UT0 95ZG RPRU 2BUD V6LN SB4E B7E0 C6XY GRJX M66H
1060 DATA 0000 0DPE K7E0 8IW7 E2QE 16E3 IE28 EK7E 0AFW 86XY GRJX Q9CI
1070 DATA X000 08ZE K7E0 CEH9 E2QE 16E7 ZE38 EK7E 0EJG 96XY GRJX UBJJ
1080 DATA B000 0DYE K7E0 GJQ9 E2QE 16SL AE48 EK7E 0II3 A6XY GRJX YARL
1090 DATA R000 0B40 AJYL 6C2S 4DSJ CRZQ YZGX FPS5 BRZH S0CS MCTX MS0C
1100 DATA U000 0BRQ LDE1 6E0C E27F 27FY H6WX YRWI SYJ0 VRRS DHTZ MS0B
1110 DATA 4000 09NL 82E5 6SAC E16E 08E8 7G67 52K1 L62G 699S ACSL CTZM
1120 DATA 9000 VU5Y H77Y S8B6 KBE1 M6VC 08RM A6AP S8CU MKA4 A56N BN17
1130 DATA T001 HP72 DYGL 6HHY TZ08 S09R 219E HO3G XFPZ A9VJ US8C VUCF
1140 DATA 5004 B0PD FVE8 MI07 24K6 M9JZ O3H4 VKSC 4EB7 E0C7 WZUZ JXTN
1150 DATA H000 2YIC A4DJ GKZL QWI6 E87E 07CB YAWL VP5Z I6AB S3CS GCKU
1160 DATA L000 1JF7 E47E 786V Y0RJ XM65 I027 S3BR Z2L6 5EWA E97L 17LL
1170 DATA 2000 72HR KUP6 0IO3 KS2F S0BL 7PSB 4EA7 E0BN Z2E4 6SAM 72QS
1180 DATA 7000 74RU PDZY D0VY RSDH A4HJ GK71 G1XB EUDK VI2M 04YD J62H
1190 DATA K000 E7SB 6E47 EH7E 0AE1 6L6X E26E C7E4 7FR8 7UYS UJXL 7KIL
1200 DATA N000 0K83 T0EW AE97 GFD6 WYTU PDZY D0W3 RSDH A4MJ GKSG 4EK7
1210 DATA 1000 089Z FQWR 4EO7 E07M 42EO 6SAS ZHQ4 JT05 5ZG6 AASN CRZC
1220 DATA F001 GDUE 1ISB EE29 EK7E 06H7 83A3 00HX VI9M EEC7 VZUZ JXT5
1230 DATA 4000 8A6X 5FB5 ZGKJ FS1D SMCR ZCW3 DA4R JGKZ LRUC 4EO7 EB7Z
1240 DATA M000 1KWH E166 V6A8 67GY TMS1 RKUU GNFI Z8AF VD1C 9IO3 YUDU
1250 DATA 3001 JA0J ZT24 5ZGC XPSJ CVLU U1VS 0BYN BRZB SJCX WDA4 UCBC
1260 DATA 2000 9IE2 6E0M 7FQS UYK0 WDRY ADA4 WFZH E16E 17EB 7E0B IG8Z
1270 DATA 2000 0BOE B7EO 7FYU E16L 657R YKZJ YNYL 0B0A SNCR ZCS0 ZS0N
1280 DATA 9001 15QU NBEU RUNS 8BRZ BDPM E46C BYAW LVQ5 ZI6A BS4C SGC1
1290 DATA 9000 1GOB 6WY8 RLVP 5ZJ6 ABS3 CSGC RZGS 0BDQ HE36 ED77 0JNW
1300 DATA 7000 0CXE Y0KV K6M8 6JV8 7XFP S5RR ZBUD GUJE H93J GKE6 6E47
1310 DATA 0000 01EI 7HM9 E0IE 1AZG SL85 EWAE 06HM 9M44 E46Z FSSD 4EK7
1320 DATA U000 48TI V8A4 VZZI QX84 EK7E 07JC AE0A E06G 0S6W XWRR 375Z
1330 DATA F001 AZJN 1YL0 WDRS DHH9 7V6V E5QE 1ME0 7GPB EECT 6V70 XWR7
1340 DATA U000 B8ZI Q4SP DZYO 0WRR SDHH 91JG K71N 6PBE UDKV IUME EC1O
1350 DATA D000 0AGE 18SB 6E47 EH7E 0AE1 66WY UUT0 55ZS 6AAS JCSC CRZV
1360 DATA 8000 DRE4 7EYA E0IE 1AL6 9L95 EWAE 06F8 A7RY UUJX N6WK V8HV
1370 DATA O001 QS2E 46ZD LE77 EXA7 TYUU JXN7 SK02 9S3B Z8OD TMEE C3A8
1380 DATA 9001 33PD ZYD0 WWRS DHH9 FJGK ZLQJ A6E0 EE87 EECF ZE6W XWRH
1390 DATA 3000 YD6C MV8M TZJS 0BDU MEEC FYA6 WXYR LXP5 ZX6A BS3C SBC1
1400 DATA 5000 1GGA E1JE 180M K4LR DGDI VJ1M EECE 2AE1 6E11 FUJZ P5ZG
1410 DATA O000 KHVS FH9J JGKZ LQXD 4EN7 6VQS 16CM V8QT XYS0 BDPM EECZ
1420 DATA R000 0DOE 47E2 7G0A E1NS B6E4 7EC7 G0AE 1JE1 8E47 E09C 1Y0S
1430 DATA Q000 2VHC RZFX 5FH9 MCBY AWT0 45ZG 699S NCSA CTXM S0BZ 4722
```



Wednesday

The code section for today contains the last of the ALADIN-listing. This part deals largely with the movements of the creatures in this adventure. It is therefore a very important part: it brings action to the scene. Generally, the more "intelligent" your opponents are, the more difficult the adventure. If intelligence can be measured in program size, you'll have to agree this adventure is interesting! Also, there are some finishing touches, such as the death routine -up to now you couldn't die! Unfortunately (for you), you can't just leave out even a single



```
1650 DATA Z002 TFBF 1MG9 NOQZ V4WE 567B 8696 3GC8 9S8C DPWU 84JQ 62FH
1660 DATA 7000 BYG9 NEJF SBUS FFEH 80MK 9LBX JDVW 191G QBE0 7T6W E56H
1670 DATA G000 DLG9 NVV1 GU0M VR2H POPD VW1B 0GQB L5YV 4U70 QRLP OPZA
1680 DATA M000 5L8U RE46 EKSG DSVN KU6F 1NVV 356T B2NT E93Z S4B5 E09L
1690 DATA 1000 0UKK 8012 7SBB KSMG 9N7E Y5RM LQ87 X9UA 1FSE D6ZV 0GQ8
1700 DATA J000 04C0 G93Z S4BZ 2BS8 CDPB EK6F YME1 6SA4 E57E 0JT9 VE56
1710 DATA A000 230F EHP7 45D9 D80D EVHP MEK6 7EY5 RMLQ 9LXO 3ATX RS08
1720 DATA U000 9AJC AE0A E06G 0SE1 6SB4 EL7E M7JC CE06 E06T 9U70 JMSP
1730 DATA H000 1765 TF8M LROO 4VTE H8EL 7E0C K8N6 XYCR JXLB 2XO3 9SIK
1740 DATA G000 0J1U NGXC SA43 6XYF RJXL 6IGG 8XSI BSZD SFCR ZCY2 SSIK
1750 DATA 6000 151M LQ6I GO37 XFVR ZDSI CRZB SJB2 9SEJ 6SE4 EL7E M7JC
1760 DATA G000 0A6E 06F0 6E2M E16E 06ZX QHVP 745D 9D80 DEVH JMEK 6JG6
1770 DATA T000 4A9G 6F7S HDSF CRZB SRTA 44EJ FSBU LA7Z XQHX 809J YL5Y
1780 DATA 9000 07QZ F0HM PL56 E2ME 16L6 XEIP E972 ER75 YI0V KRSJ BS1U
1790 DATA E000 5MQL D30D E5VL URZF TXWS 0XDQ IE66 E066 VXYS KRM5 YIXY
1800 DATA D000 1VW4 EJ7E 06GE OSBU SF4E O7EB 7FYH E1RL 649I YEQC SADW
1810 DATA 6000 BR6V C08Z 0LDW LUNG UMTT XMS0 ZDQI E56E 06SA KEJ7 GNOZ
1820 DATA 4000 9SEB 7EO7 G0PE 16YY KEK7 HMPG 2QE1 6KO9 EK76 VQRF DLEL
1830 DATA Z000 BY7E YERW L3UN 4DJV E8IE 56E0 6ZFG GOBH LPJC BE06 E06Z
1840 DATA T000 0FTS KCRZ HTXM S0ZD QIE5 6E06 SA4E 18EB 78UX XSJX M7WI
1850 DATA L000 7RE2 7FY9 E2HS B5E3 8E07 FYA6 XYKR LWP6 0X6A 9S4D SKC0
1860 DATA D000 07WE 58E0 7FYC E2NS B5E6 8E47 FYDE 27SB KE88 FZFF YKL7
1870 DATA E007 4URT 0060 ORPN S2BR ZBDP I70X WQJX LBEG KJRI ROJK 3N1Z
1880 DATA 903T 09J7 K522 Y5W4 6J3S 482Y APL0 I5UA VV79 47JI SNAI V7ZH
1890 DATA L000 0000 0000 0000 0000 0000 0000 0000 0AK4 VHQ6 PLRA PMBS
```

Thursday

Does the code for today look very different? It probably doesn't; but actually, it is quite different from what you have been typing the last three days.

The procedure for typing it in, however, remains the same. This was described Monday. Today's code contains half of the vocabulary of the adventure. Since this is a text-only adventure, your work for today is of the first importance.

```
 990 REM Thursday
1000 DATA 1000,36,36,1,91,20572,2816
1010 DATA 70QE EIGY 8HQF 0UG1 XEFG HH79 IQ4Z BAZL GWB7 3BC0 ZLLF B8CE
1020 DATA R0WD LLF8 ADX8 N7YB OSKT EES2 5VU5 SHK3 UR9L BBCI 120B Y21B
1030 DATA 11G3 4D7E V4VB 776E J36R HH4F 76UD SZ8O DV26 ZAC8 IDOC RS92
1040 DATA R0IP A6JT 8ICD 5FEA 0LE4 N5JA ZZAK 9HP1 BMZJ SWWR EOH6 19SU
1050 DATA 702E D1LE 1OWE AZKL VEP6 L5VU OE4E 5EAZ KLVW LU7R CR32 JS4Z
1060 DATA J0AJ IYUX FPEM W571 UGT1 QZBB OTGW 4ALB C4X2 GWER EPES S8X7
1070 DATA 51H5 6IEK 12XH 64B5 VWMR H940 6SUD S1MP AC4I NIFE 26BT PGRY
1080 DATA Q3WC I6AB MP9S 1ZQ2 FE2M BTPG R4AA EBSW 9LHC 3276 Y5ME WXC7
1090 DATA Y0ZY Q2CV R296 YKXH 6347 HV4S U26I R7PH YEJ1 6VC7 181I 2EOY
1100 DATA F1G5 EG9Y K2OB Y3GC 5Q4O FG8I C1MJ LHC3 276W 8EHF 166K X7YY
1110 DATA E0VD DFYU VIK4 H00H K4F6 UT3I BY49 BQXJ MBY5 9BQX JMYY WFXY
1120 DATA P4YE RYB7 HV4S H94B 5VWK TEMT 26ZY CR4K 50HC 7AA5 JDSE STGE
1130 DATA G2AU KCIC B131 P2FU EYU2 6VU2 R4P4 EC4M FXH6 326T WJEE QQBD
1140 DATA U06F OZ8R DSYZ JEHH C4FQ EKQH 6MVK PEIU DNB7 046W SGJC RRI7
1150 DATA M0IX 06PV 4PHC B2SZ IS2O Z8IC M4JF YA0K GVER UFCH 19IC PTFI
1160 DATA 3025 2VHP EEYB 9ZNJ SZ7X DS1X PDBO WLXE EW2P HM4I OZ2W CE1Z
1170 DATA I0WF AQET UBEA 1JEG Z129 ZP6H Z0IF TEPQ B71V 8VHC CG9Y P6VY
1180 DATA 1024 YUOM ZDLE PHC9 GUHH C6EO 1AR4 CMZC 3IFG ELUG CJ0O E9ML
1190 DATA O0UP QSZE VEJE IUHQ EWYB 6SUA R4P0 CBUV KM1P QCBS ZGY1 ZPCB
1200 DATA Z0V1 2XEL UF9Z UGMZ CXEI EHW2 9ZOA EZ7X GJ4H 004A 3DC5 P6VY
1210 DATA R0HF 870S FSF8 4FCJ 0AKZ 1XEL EYW2 QEXX 66VU KXYY QHW9 TNY7
1220 DATA G0K5 46MV 9EH6 7MCJ 1JEZ 2PJE H94B EC0A HBY6 DBQK MPEM QFQX
1230 DATA Z0CD IYYT JFEI QIC5 Q7YC 553B XWOI ZBWE VESS 8A0J 2VEV UBR7
1240 DATA C02A CVMP 3JGY 70T7 E4NM BE81 JP8Q 8B7F V5SW SRDG YURD W1QQ
1250 DATA E0WX 2R49 PBBN I409 SLYJ C6ZB BXWG O4OF B9ZV 2W4P ABC5 P6VY
1260 DATA N0JZ UR9C NBPG Y729 ZZGG Z4WE LEMW 5CJ0 LE23 WFBY WMRE XQ67
1270 DATA 23EC C3K8 TQ4L 7LDY 1WJF VEMW 59LL 2V4N 00B7 72ET 1JIE QU9I
1280 DATA X0Q2 FWEQ Q91P EFGH H79I QPZC BXM2 Z4A4 EAZK LVWL U7RC R32C
1290 DATA C0J7 05VU 5E23 WEBQ VLVG Y306 MU4E ZFIC F4AL BC4X 2GWE REWY
1300 DATA R1DO UBXG B6IE K12X H64B 5VVD EEVW 2A5N JMEK XHBQ VARC 03G1
1310 DATA 802R GY7D CK19 SHF3 GO46 5EEF 2FGE XYC6 VX9E EPVK 1E2D X4S0
1320 DATA R0AQ FEMW XRH0 4AJM 2ZCC 4XJS ZEXD S4Q5 BEP2 JR4O LYBZ WLLY
1330 DATA 406T 6ZZ5 MEVU 0C5Q GRFG 72C4 MEFE PYB6 OV3I H91G 9ZP6 V1Q3
1340 DATA N0VY 2MCB 4GBY MDPC C33C 8M6X CSRF BMV4 LFD8 DC3W MX4O FBQZ
1350 DATA T2BP ZGQC SRFC 0S6R FC9F BMK6 WFE8 HEN2 8K1X QBE8 2JPC C53E
1360 DATA W0IL FC5P 6VFA B21V 2FKE VU26 VUDI YUJE JEIU 9QEP Y86M ZIYU
1370 DATA 72DV 0AQE STCP GY19 CJ19 S24Q CBMZ GY1Z PDC1 ZAG1 WX2F C958
1380 DATA 10IM F1R2 DXZ8 TEXE LYGR EGQ9 221D V1QP ABRT 2XFA 4B1P 2FTY
1390 DATA 20VR LE4H KZEK 1LSC 66GC 5IFH H634 TEFU HC8M 6R7M IYJN Q00U
1400 DATA S2EI 3ARC 064C 3IKT H634 CJ1O M4C4 BE82 JPCI 4DEE 0LM4 HIZ5
1410 DATA J0JK I6MV 2QHC 34WH GAFC 3WMR EHU1 O47A EEO2 JVHC AB6L V3EX
1420 DATA D1H6 1MTE HQAB MO6H 7RHY E76J MHB9 59ZK 2Z4A 4EBO WJVE MTCB
1430 DATA 60WU Y0EM T2QH 1427 0TFS CD4H BTWM KC10 671U OM1X XEBO WDPU
1440 DATA L0WX HWBY 60C3 WKWH 634V H04F C3Q5 SZBW JTEV YAEE 1AZB Y7GD
1450 DATA 60FE YBUZ 4EZC IDG4 Q5CC 4XDM ZDWK HH67 2E81 ASZ7 WFFH 231C
1460 DATA R0DX DC4P 2VHD 1M9Y MFHC C7GC 6XHS HF92 6LU5 IYUH DIZ7 HIRU
1470 DATA Y00W 8JVH CCG5 ZUBY ZCXD J4E5 EBPI QPEM W571 VHIH 25GP TT2U
1480 DATA G0H2 BVHK 4CBP X2XZ 1WFG HF4G EOBZ 75VV IYEM UHA2 KDIG Y767
1490 DATA T108 SBC8 WGH4 OFB9 ZNGV HA8R RF89 CA0L GQEE YBEZ F20H C419
1500 DATA F049 GY95 Q9TD Y71U LE1X XBC5 Z6IC C4BB MZJS CG52 BYMJ KH28
1510 DATA L073 C8Q5 I4NF BPHC 32A1 KJSH G82E 9BZC EP4A WHHE RRUJ RETU
1520 DATA 60KD H6PW EIEE TC74 VEEE OUGQ HHAF EJBZ BC3W MR49 FBA3 KDIU
1530 DATA C02A OZAR 1S3C BRIE SZEW LMHB 82E8 1GPG Y31V EJYF 70HI E9I9
1540 DATA X00W OJSZ 8QEG GY85 RHD4 6EJ1 X3Z8 SEYE WU1N 3JLY EJ1A UEYU
1550 DATA 32BE TGH1 SQDB OMFX EVQ9 CL0I YGY7 25ZV HPEE S2A4 MPGH I7G2
1560 DATA F0AI S4J4 BEO1 2VCD 5GBQ ZNMY WIEG EEW2 W9SP YBSJ 6IHH 12UZ
1570 DATA H0K1 CC6V LEZ2 REFE IUBW H04A C1T6 X1QX 2UJR JHH2 8HC3 WQIX
1580 DATA J1AB 52BM ZOMW GVEV ESQ1 A0KD SEWU 1CL0 HMEH UF5Z Y3VE IU12
1590 DATA R1FO 34PH 34FA 0T2V EZQ2 CL0A Q9IH Y6ZV CMER TG9Y NGS4 9JZ5
1600 DATA T04N EES8 CK4G SH91 MQHK 4F6U WJSE SV29 518V GY8G BTWH TM6R
1610 DATA 0194 AYEN 4AKF DC2E O16V C76B C0ZL LH27 BTEI QGC5 MJRF ACC5
1620 DATA N0I0 3QER UG71 U6EY WLFS EXX2 6ZU8 SYYW FLGY 195Z T3MC D3A8
1630 DATA 21HG A96L U9E1 XXDE O1GV EEW2 A1KG VERU F5ZU 9I46 3BC4 WMRX
1640 DATA 40D3 DBRI DPH6 34CJ 42XY YVEL EIQ1 CK42 WELU GQHC B26Z U3SX
1650 DATA T0JO MA1X JMHG 4B5Z VOEH 91GV ETQ6 EJ1A RZ0W EXEL UASH G1C9
1660 DATA W0VQ 6WFD ADC8 IJHC C5FE A0LM Z7KJ WH23 HBUV 6PCC 91BQ KGVU
1670 DATA R0VF LMHC 3GCL 0MTH D4G6 MUEY 4O5C EM26 IZ7W EQGY F2RG Y3HC
1680 DATA D1V9 OFRY YW1V FC8H BMV5 WFC2 CBPM JR2I 5221 QCC3 W4O4 A5E9
1690 DATA Z06L C3W3 EGZ1 M9YU GW4P NYEQ 1GQG Y929 514S HB9F C0TJ SMGM
1700 DATA F2EG 6GYG 8B29 YMNI CB63 C6MD VHC4 AQHI 5C6V V6R4 P32C US6B
1710 DATA N02B ZKMM 4P4A C4M6 QUJR JEH0 96C7 ILIB X70E K2FX 4900 H8JV
1720 DATA G0G7 BCK0 LEHF 9GPH B4KA 1T6E EZYB ECBZ CBQI JX1T 375V UEEX
1730 DATA 704D 4AF2 N876 3BUV AWEL U19X JMXF D3CC 5PAR C055 BMXH IHB8
1740 DATA K0V5 KIH2 2GR9 RAY1 H2LH EIQ0 C5QN EEXU 1NB7 52BY JJE1 OQA7
1750 DATA 90B2 IH00 RRCT QHC5 MET4 PFBN B76G C5Z2 RH41 2QZI S2V7 N8Y7
1760 DATA X1EC 0HA0 JJIG Y95N 3JLY EJ6E S23Q 75VW 6REX UF70 XLLH F4I0
1770 DATA X0KC 59ZL GS23 3DBP W6WE R0HP GY3M A0VG XEMS 29ZW HIZ7 WGTU
1780 DATA Z02E D0KI CC40 BXWK I4OF B9ZT GG4G 4DC4 X6GE MQ9P F0QM O5WU
1790 DATA O0CL LGYB 2VHG A080 M6H1 QPDB WQDP H634 UHM4 IEN0 6P9F Z6RX
1800 DATA J0AV SER0 HWHI 31BQ ZKXG Y31Q 9MAY 6VUO IHB9 RR50 CIQE TQGC
1810 DATA N000 0000 0000 0000 0000 0000 0CVC C1IK WYYH ELHI 7HTF 0Q94
```

Saturday

This section contains the last of the text. After today, you can rest with the thought that all of the code is done. Sleep well and have a pleasant dream about the great adventure you are going to play tomorrow.

```
 990 REM Saturday
1000 DATA 1000,36,25,2,777,27576,4148
1010 DATA 103J 003N YO39 7JGQ ZA2E 9C89 EGNV 4IS2 JWCA JJ9I GUP5 ZCYH
1020 DATA Q02G 89IG VU2Z 9EGN 9IC4 VEZC YGXV 42JF OD9I KUXS GSOA 2GVA
1030 DATA 008F J2QP GX2K 0T2M H12R IVNV FPI2 SRIF A12O MB2A V708 H94A
1040 DATA B03Z JA0W ZPFJ TJQF SD07 VC1X VTFN T2YV XMTD RE2L VAAD 49BA
1050 DATA G05V TA8M LU9I 2X2I OM5W W129 IOMF ITFV 8T9G MAHH V1E3 3EOA
1060 DATA B00X N7BG QZA2 XHGN V0NK 5TV3 O8UH HEMU ZH03 CUCM ORHM 9FW7
1070 DATA W02N 8YMH 13GW H9MY 9DV8 9A7V 0OLO 0P1I 03HQ OZBS 7P00 O9BA
1080 DATA 202S CHNT DT4F 9OGX V63B TJSV RNYA OV3O 8Z7T GM9H VBV5 W963
1090 DATA 30BM M9U6 TJW9 OJ3M 5WNU XWBW EM2C 0CT5 2C3N 3SIB 7V4W 12LW
1100 DATA U06S 1PKI 2MDR 3VM7 O03R 4HBI B3YW TBAT LO8Z IFLW BQIK USYX
1110 DATA Z155 7R39 NR2E I1PE 2BO4 3M8R SFXA DYV1 2K4A M0Q5 2TDN YRSH
1120 DATA J02F YIS9 SBR4 Q8TR NWNL 4O2M 4IXG QJ0D VXLY J0Q9 9DVE TNWV
1130 DATA L08S M4WW US3U 4R4N DZ9D RQCW O4WV CKV1 2A4V 4YTF U93Q 4V6I
1140 DATA D00D 5QXV 41X2 CQLE ZQ9G GB9X TBW6 UE5G B9X7 R2O5 8PV1 C6QN
1150 DATA 7000 UJEQ NJI7 TCE5 DUBC JEVC QTEX 2JIQ S7R9 SBR5 JBV2 UJNO
1160 DATA L16W 9058 NWNO F1VM 5UW2 90GJ IF92 JNQL Z4R0 5JUJ QQZ7 L9SK
1170 DATA Q1K1 GQJV 7P2O 5SO9 IR1T 9GUR 93DP H37N A519 H99J WER9 QIVP
1180 DATA E0HR R67J GWK0 9MYF Z9OQ NJC9 MYFX 9O4D M1TA EXVM OV4Y FLX5
1190 DATA S2UQ IB7R 2OII EJXR 9K47 P2OI IHK4 5R0D 5URJ J197 JGW8 09EC
1200 DATA 10US 7NQS 9DVE VJU9 6EPD T9TM PVDR GXG5 7L6R H9M7 JGWB 1V61
1210 DATA W04N UTDV CDKA EOB2 KF0F H0N7 JGWI TKGT EZ9O PZ7Y EWWV XVY5
1220 DATA K00K K87V H0B5 U5KE D59O F4V6 R5HC FKDR M7R9 S0WH 27VI 2VRP
1230 DATA 002O 9KI9 SZ3Z 9ORQ DTKB Z5ZA 1RS9 RKPZ 8X9O RVVP RWEZ 27Y8
1240 DATA X054 XS0E Z298 GOKQ T99W F9I5 FLZ2 KIXF J67Z M0VD 6FWO UKQ3
1250 DATA E1AH 6D3U 6G6J A3B9 OS2J CESM E7Y9 9OI6 83DV MF7Y A9G6 JZEJ
1260 DATA L0A1 8L90 L0F1 L3L6 ONE9 I9OF 0L7L AMB2 ULV2 1C0C 6YF0 1L9G
1270 DATA F14I JHGC AGUV TFW8 IGXU S3TT FW8I GXUT PFF5 2L86 W3D6 ZM04
1280 DATA U00C SQXA CHL9 8VLT HW96 PNEQ 8SYU Z9IG E9RJ YMPX 9OSL 9KUW
1290 DATA I0EA IWUS 2J5I NFEZ 2G3G Q987 VOAB XMES SMV6 75O2 X9IF RJ11
1300 DATA V08Z 7F72 IRSG EUVM 9YH9 6ERV C5YV CK7J GWLK 9MNS X9OP Z7TK
1310 DATA J081 1TFW JTGX DR9Z 0LH2 7LJ7 82IE Z2CE PN94 GQUN 3TTH W823
1320 DATA Y13X A1FQ LQTD A9W0 4LS4 M0WE TO2Y KF7I F19K CSSN W07V 09R8
1330 DATA M07C XSDZ 9IHJ LXV6 M4D9 WGOL Z0GG WW9I LZGM M20J L5TN SM3A
1340 DATA W08P RHR3 0IVA M72E CIJS L9OJ XVV7 WT7U 7VGQ XBH1 83U0 OUXJ
1350 DATA 405C 8819 WB9Q 7Y3L GZ9V 0KEK GKZM DVET TU92 4I2C 82IC 8AWF
1360 DATA B0KN UPCG GWTN H08B W0W0 X0Y0 Z10M NLWV PU0F 327S 8CT4 O0U5
1370 DATA N0EO V2TE ZLFO CMKA 6GYE TV4L HG63 9VEV 9KTS V5WU CEIE X2GL
1380 DATA H0XX 8QU2 G8VE TFWM TFYM XVET DW8Q GX9X T9VC 4GO4 V0F8 S1OO
1390 DATA 50VC 9IRH TJGS UD31 C9IF YN1V 6N8G 7LGO ZTG3 H597 NGYN 3UH2
1400 DATA V0F4 O09O ETV4 HMG7 3VHM 3NYH OUPA 9IHJ TRIL UI2V A3TG Q1PW
1410 DATA U08K HRRA 1JKQ GJN8 TXVC 51LV 1G22 9IC9 3W1O NBUK X1L1 J62F
1420 DATA 40QL V434 G1XG 9SBU X2C9 1L38 AWN6 I8KC KFOI 6X9V A3SS IO06
1430 DATA N0CP UXV4 1L5Y 61TJ UVW1 L8VG RGYP 7JGQ UF8L 9W3V 41LI C5KT
1440 DATA 31KE H49Q TBVC 51T9 OUOT FHDR V3NH UQV2 99IH 7DR9 6O42 S25E
1450 DATA F231 28UX Z5TX 522C 3J4V CICV 5294 GQ26 2A2B TJ5N PPY9 QBBF
1460 DATA 010N 7TGO ZTG4 H592 69FU G9AT FVA6 NTH3 NWV6 O3DV 4N8G S2HQ
1470 DATA B21G 2IUM FEH1 EO05 X0H9 0869 QXVI GVFL O8B9 L8T9 OPGG Z2OX
1480 DATA 404W PVIQ H2O6 VFWO VKJC 2THH 3MH2 EHCE CSGQ 8VTF KJ7C GGQD
1490 DATA 50HA HY9I G1OA XM9W D9GG 0EUW SYKU 2P2Q KBVD VCA3 TTU8 SVMO
1500 DATA L351 GYBV 2IU2 T9FG QBAT LVC6 2UY2 HBA6 ICVZ 22YT 528A 9VY3
1510 DATA 30DD SJVA HHM2 2ZHQ L33O QLWV 6AHV 5UAP G0T9 H054 U363 783G
1520 DATA R0A9 4W56 YT1N VN2G 4PE3 89OG NA3U YTVU WB1O VQR0 VEY8 0W3O
1530 DATA X032 14EA MP57 3AOY W7VC ICAU T9IL STBA SVI7 P3VW UWEZ WM2O
1540 DATA B14L 3LJR G9TB WKAL P8WW AVCE VWQ2 3Q3R 7NB1 N81F 403C 17RG
1550 DATA C08K 92PW 3VUX 2AB6 B9TH UAAG 4IYV 8FY9 VA9P B5K2 X033 Z7I8
1560 DATA 501E TQZT BGSL LO8W GXVJ EXGW OUIO 52R7 XL9L PNBA 2Q99 HW8K
1570 DATA 219P 8F6L 9DH0 RZAE ZGJ2 1IM8 3BP5 23VA 5G67 H80T P1Z4 4T74
1580 DATA I16I V26Z 21H7 EZQ9 GG59 XTBV CB1A 9IBG 0H5U BL4I U9FB KMLJ
1590 DATA L04U RXCJ C2IC BN6L XCTC VA3N LRYU Z20T PUE5 G6Q5 VLV9 UQ43
1600 DATA G050 MBVT RWUK FHLY 2ZJ8 E4LQ 8H9Q 7THV CCWZ J499 XNGK 2T54
1610 DATA N0EE IUUK 2PF5 SB50 AA1X EWOP EXOF Q5ET AEV6 ZZDV H0DG S1XN
1620 DATA J087 79WR V41T 8KGU 24T1 Z4RQ EC1U M2EQ MCD5 WZJC 8WC9 U5WR
1630 DATA DA6J BC04 YLEC 7S7W K7W2 MR2H CS6C 25C2 WTFJ Q9GC 8NF5 5DX6
1640 DATA 80QJ XI2I I4SA KG0Q OEVV 6GBY 5A1Z QQF1 9K93 YWUV IO4N MUZJ
1650 DATA D098 Q239 569O I7VE Y5CO WAGY 3V3G XGR2 VB2A HKJU Q0IC 3LWG
1660 DATA F0EE DWGL GJUP 9V9W 25B8 1GQ9 11PC QOBV DRY7 9Q99 40RU PTBX
1670 DATA Q2F0 9RV6 ZZE5 79VF BV6G CY93 C9VD OY5I H2P8 G5FX IO4M FAOU
1680 DATA P023 D7MG O2OK 4ER3 GC9K VWTX WUMJ YGO2 EK7E OW7C O42E 8TM6
1690 DATA L7EJ MZ7Y ADPG OR85 PTCZ E41J HA9Z 2C1E ICF0 2EOT M8DL 62I0
1700 DATA I1GN CVFZ YK1Z HFE7 LJDR DV1U HT9L GJ9Q THVC E42E SGW5 S26V
1710 DATA R04C 2TDV CE5R V2EQ YO0T 6TGY C2AY POGD 27E5 G989 WVX1 URG3
1720 DATA 821B NHQR 8XO1 K5V9 OI8R KXM9 WF2K J10E NUS7 0RO1 K5X2 KGWA
1730 DATA 90QK 5Y7T VE61 NW0R O1KB 0D8K HEVN YRYU D7G9 7Z2O DHRI FVAS
1740 DATA X13C KIGW VK8A PY12 K646 59OL WRUT 9VCF 60RN EZVP Z5DO WRV3
1750 DATA E16Y N5G9 871T GWUZ O6A6 BUXB KVGK WOCH 9B86 9FEV OWVC J92N
1760 DATA 62ZK TD0P V5WF D2W2 JH50 RSFP 9OI8 S19J 2GDY M7NK ZCD9 S40R
1770 DATA S011 BS1F 1V6G EZI2 B0ZB 9QVU MMBV 41WX ANZ9 Q0S4 4U4Q HBL3
1780 DATA L2Q4 V6GE D7UL WD01 DGSN MRN0 6K2J 1Q6L 9IDU 90GQ L7GE G8WG
1790 DATA K1BO I8SC NGVA T7P8 XNY1 YVHL FK6Q 7ZGQ UQ8M VC1W MPI5 I6X4
1800 DATA 518G NW7G TNVC G6SV 410G L2G2 8E2E SW0B E3E6 SF96 W6W6 WSJA
1810 DATA S00S I6Y6 X6WS IZQT 3E8S U5SI ZVLA 9SZW 7UMS QENS TSWL ZOSZ
1820 DATA W00C SUR7 EEL7 H7HM 2R7I EL9C 7HM6 R7LE L7P7 HMAR TBLT M8ER
1830 DATA U01I REL7 U7HM FR7V EL7Y 7HMK R98E L837 HMOR 83EL 867H MSR0
1840 DATA S01S 4EL8 87HM WV7L GJ8D T7TF P8CE P7N9 FMZV 7LGJ 8GT7 TFP7
1850 DATA T019 OEL8 I7HN 4R8J EP9E 9FN6 R8LE L8OT 7TFP 8NEP 9F9F NARH
1860 DATA U01S AEL8 S7HN DR8S EL8V 7HNG R8WE L8Z7 HNKR 8ZEL 927H NNRU
1870 DATA 2000 0000 0000 0000 0000 0000 0000 4HB7 HNPR 94EL 977H NSRZ
```

Sunday

The seventh day is traditionally a day for resting; however, we do not follow this tradition. On the contrary, some hard work yet awaits you.

First, there is a fairly large BASIC-program. This is the keystone of the adventure. Take care that you do not make mistakes! There is no error-detection!

After that, all that remains is to put the pieces together. This is a very rewarding job: the reward is the game on which you have spent so many hours.

The adventure consists of two sections. To create these sections, execute the following steps carefully:

1. Save the BASIC-program for today on a new cassette. If you have an Acorn-compatible disc-drive controller, you can also use your disc-drive, instead of your tape-recorder.

   If all is well, there are eight programs, each consisting of the decoder program (listed monday) followed by a number of code lines. Since all error correction has already been done, running the program should be no problem.

2. Run the programs for Monday to Saturday with the command:

   PAGE = &1100
   HIMEM = &2F00
   CH."filename"

   Example: PAGE = &1100
   HIMEM = &2F00
   CH."MONDAY1"

3. When you have run these eight programs, save the second section of the adventure with the following command:

   *SA. ALADIN 2F00 7C00

If you use your tape-recorder, save this section on tape after the program saved at 1. This is necessary because the code is loaded from the BASIC program of 1, so this code must be found by that program.

The two sections just saved constitute the final program. Perhaps it would be wise to repeat the process to make a backup.

To start playing, rewind your cassette and run today's BASIC program with the following command:

```
MODE 7:PAGE=&6600:CH."ANTAGON"
```

You'll have to wait some time while the other section is loaded, but then:

PLAY THE GAME!!!

```
 10 REM The Antagonists
 20 REM Hermie Hermens
 30 REM 1.1.'85
 40
 50 CLEAR
 60 PROCinit
 70 REPEAT
 80   CALL start%,ITP%,rf%(1,0),rf$(1)
 90   CLS
100   REPEAT
110     REPEAT
120       CALL ITP%,rout%,par%
130       IF rout%<>9 THEN ON rout% GOSUB 210,,,250,,,300,370,,440
140       UNTIL rout%=9
150     PRINT"Do you want to restart or to continue''"(R/C)? ";
160     an$=GET$
170     PRINT an$
180     UNTIL an$="R"
190   UNTIL FALSE
200
210 REM **input**
220 INPUT LINE" >"i$
230 PROCtranslate
240 RETURN
250
260 REM **random generator**
270 par%=RND(par%)
280 RETURN
290
300 REM **load**
310 INPUT"Load a new situation",ans$
320 IF LEFT$(ans$,1)<>"Y"THEN RETURN
330 INPUT"Filename",name$
340 PROCcommand("*lo. "+name$+" "+STR$~par%)
350 RETURN
360
370 REM **save**
380 INPUT"Save this situation",ans$
390 IF LEFT$(ans$,1)<>"Y"THEN RETURN
400 INPUT"Filename",name$
410 PROCcommand("*sa. "+name$+" "+STR$~par%+"+800")
420 RETURN
430
440 REM **sound**
450 FOR I%=1 TO 10
460   TIME=0
470   SOUND 1,-15,100,2
480   REPEAT UNTIL TIME>=100
490   NEXT
```

```
500  IF par%?101 <> 220 THEN RETURN
510  IF par%?1952 <> 20 THEN RETURN
520 SOUND 1,1,100,120
530 SOUND 0,2,7,120
540 RETURN
550
560 DEF PROCinit
570 ENVELOPE 1,13, 1,0,0, 200,0,0, 0,0,0,0,0,0
580 ENVELOPE 2,13, 0,0,0, 0,0,0, 127,0,0,-1,127,0
590 n_rf%=60
600 DIM rf%(n_rf%,1),rf$(n_rf%)
610 rout%=0:par%=0:ITP%=0
620 i$=STRING$(80," ")
630 DIM cmd% 40
640 start%=&1100
650 PRINT"Loading assembler"
660 PROCcommand("*lo. Aladin "+STR$~start%)
670 ENDPROC
680
690 DEF FNword(wd_n%)
700 LOCAL I%,wd_adr%
710 wd_adr%=wd%
720 IF wd_n%=1 THEN 760
730 FOR I%=1 TO wd_n%-1
740   wd_adr%=wd_adr%+LEN($wd_adr%)+1
750   NEXT
760 =$wd_adr%
770
780 DEF PROCtranslate
790 REPEAT
800   rf%=FNrf_n(FNnext_wd)
810   IF rf%=0 THEN 900
820   ON rf%(rf%,1) GOTO 830,860
830   REM **verb**
840   par%?1=rf%(rf%,0)
850   GOTO 900
860   REM **object**
870   IF par%?2=0 THEN par%?2=rf%(rf%,0):GOTO 900
880   IF par%?3=0 THEN par%?3=rf%(rf%,0)
890   GOTO 900
900   UNTIL i$=""
910 ENDPROC
920
930 DEF FNnext_wd
940 LOCAL spc%,wd$
950 spc%=INSTR(i$," ")
960 IF spc%=0 THEN spc%=LEN(i$)+1
970 wd$=LEFT$(i$,spc%-1)
980 i$=MID$(i$,spc%+1)
990 =wd$
1000
1010 DEF FNrf_n(wd$)
1020 LOCAL rf%,rf$,rf_n%
1030 IF wd$=""THEN =0
1040 FOR rf%=1 TO n_rf%
1050   rf$=LEFT$(rf$(rf%),LEN(wd$))
1060   IF rf$=wd$ THEN rf_n%=rf%:rf%=n_rf%
1070   NEXT
1080 =rf_n%
1090
1100 DEF PROCcommand($cmd%)
1110 LOCAL X%,Y%
1120 Y%=cmd% DIV &100:X%=cmd% MOD &100
1130 CALL &FFF7
1140 ENDPROC
```

THE ANTAGONISTS

A MICROWORLD ADVENTURE

Is your life a little dull at the moment? Then look to the future, to surprises and excitement. But you need not wait! The adventure of tomorrow is brought to your micro today in the pages of *The Antagonists.*

The dinosaurs ruled the earth in their day. Then came the mammals, culminating in Man. Finally, the insects inherited the earth, led by the ants. Only Albert Renshaw survived to witness the new world. Living in constant fear of discovery, he determined to find a way of escape, preferring the dangers of the unknown to a life in hiding and misery. But how?
It is for you to find out.

Helping you in your bid for freedom is the diary left by Albert Renshaw, his only companion in the final days. You are also fortunate enough to possess other bits and pieces of information that he collected and thought essential in his attempt at escape. These include detailed drawings and a modern fairytale. A copy of the Book of Flowers has been preserved along with a brochure for the fun-park INSECTOLAND and there are articles on the life of the mysterious Tenins and Lepries and on the life of the ants.

Full instructions on how to load and run the game are given. Keying in the program listing at the end of the book is made easy by the inclusion of error-detecting check digits. This simple task accomplished, it only remains for you to follow the trail of Albert Renshaw. Can you escape the world of *The Antagonists*?

If you enjoyed this adventure, you may be interested to know that further adventures are awaiting you in *The Secret of Arendarvon Castle* and *The Seventh Generation*, also published by Addison-Wesley.

Cover illustration by Betty van Spijker.

GB £ NET +005.95

ISBN 0-201-15734-9

00595

9 780201 157345

Addison-Wesley Publishing Company