<pre>State of the second secon</pre>	 User-defined constants Some constants control features rather than represent values. AMUSING_PROVIDED Activates the Amusing entry_point. DEATH_MENTION_UNDO Offers "UNDO the last move" when the game is over. DEBUG Activates the debug commands. Headline = "string" Mandatory: the game style, copyright information, etc. MANUAL_PRONOUNS Pronouns reflect only objects mentioned by the player. MAX_CARRIED = expr Maximum number of direct possessions that the player can carry (default 100). MAX_SCORE = expr Maximum game score (default 0). MAX_TIMERS = expr Maximum number of active timers/daemons (default 32). NO_PLACES The "OBJECTS" and "PLACES" verbs are not allowed. NUMBER_TASKS = expr Number of scored tasks to be performed (default 1). OBJECT_SCORE = expr For taking a scored object for the first time (default 4). ROOM_SCORE = expr For visiting a scored room for the first time (default 5). SACK_OBJECT = object A container object where the game places held objects. Story = "string" Mandatory: the name of the story. TASKS_PROVIDED Activates linking with pre-compiled library modules. WITHOUT_DIRECTIONS De-activates standard compass directions (bar "IN" and "OU"). Place alternative directions in the compass. 	<pre>e Library variables end of the second action action The current action. actor The target of an instruction: the player, or an NPC. deadflag Normally 0: 1 indicates a regular death, 2 indicates that the player has won, 3 or more denotes a user-defined end. inventory_stage Used by invent and list_together properties. keep_silent Normally false; true makes most group 2 actions silent. location The player's current room; unless that's dark, when it contains thedark, real_location contains the room. notify_mode Normally true: false remains silent when score changes. noun The primary focus object for the current action. player The object acting on behalf of the human player. real_location The player's current room when in the dark. score The current score. second The secondary focus object for the current action. self The object which received a message . (Note: a run-time variable, not a compile-time constant.) sender The object which sent a message (or nothing). task_scores A byte array holding scores for the task scoring system. the_time The game's turn counter.</pre>
• Library constants ••••••••••••••••••••••••••••••••••••	De-activates standard compass directions (bar "IN" and "OUT"). Place alternative directions in the compass.	turns The game's turn counter. ^{wn} The input stream word number, counting from 1.

Achieved(*expr*) A scored task has been achieved. AfterRoutines() In a group 2 action, controls output of 'after' messages. AllowPushDir() An object can be pushed from one location to another. Banner() Prints the game banner. ChangePlayer(*object*, *flag*) Player assumes the persona of the *object*. If the optional flag is true, room descriptions include "(as object)". CommonAncestor(object1, object2) Returns the nearest object which a parental relationship to both *objects*, or nothing. DictionaryLookup(byte array, length) Returns address of word in dictionary, or 0 if not found. DrawStatusLine() Refreshes the status line. GetGNA0f0bject(object) Returns gender-number-animation 0..11 of the *object*. HasLightSource(object) Returns true if the *object* has light. IndirectlyContains(parent object, object) Returns true if *object* is currently a child or grand-child or great-grand-child... of the *parent object*. IsSeeThrough(object) Returns true if light can pass through the *object*. Locale(object, "string1", "string2") Describes the contents of *object*, and returns their number. After objects with own paragraphs, the rest are listed preceded by *string1* or *string2*. LoopOverScope(routine, actor) Calls routine(object) for each object in scope. If the optional *actor* is supplied, that defines the scope. MoveFloatingObjects() Adjusts positions of game's found in objects. NextWord() Returns the next dictionary word in the input stream, incrementing wn by one. Returns false if the word is not in the dictionary, or if the input stream is exhausted.

•• Library routines ••••••••••••

NextWordStopped() Returns the next dictionary word in the input stream, incrementing wn by one. Returns false if the word is not in the dictionary, -1 if the input stream is exhausted. NounDomain(object1, object2, type) Performs object parsing; see also ParseToken(). ObjectIsUntouchable(object, flag) Tests if there is a barrier – a container object which is not open – between player and *object*. Unless the optional flag is true, outputs "You can't because ... is in the way". Returns true is a barrier is found, otherwise false. OffersLight(object) Returns true if the *object* offers light. ParseToken(type, value) Performs general parsing; see also NounDomain(). PlaceInScope(object) Used in an add to scope property or scope= token to put the *object* into scope for the parser. PlayerTo(object.flag) Moves the player to *object*. Prints its description unless optional *flag* is 1 (no description) or 2 (as if walked in). PrintOrRun(object, property, flag) If *object*, *property* is a string, output it (followed by a newline unless optional *flag* is true), and return true. If it's a routine, run it and return what the routine returns. PronounNotice(object) Associates an appropriate pronoun with the *object*. PronounValue('pronoun') Returns the object to which 'it' (or 'him', 'her', 'them') currently refers, or nothing. ScopeWithin(object) Used in an add to scope property or scope= token to put the contents of the *object* in scope for the parser. SetPronoun('pronoun', object) Defines the *object* to which a given *pronoun* refers. SetTime(expr1,expr2) Sets the time to expr1 (in mins 0..1439 since midnight), running at *expr2* (+ve: *expr2* minutes pass each turn; -ve: - expr2 turns take one minute; zero: time stands still). StartDaemon(object) Starts the *object*'s daemon.

StartTimer(object, expr)

Starts the *object*'s timer, initialising its time left to *expr*. The object's time out property will be called after that number of turns have elapsed.

StopDaemon(object)

Stops the *object*'s daemon.

StopTimer(object)

Stops the *object*'s timer.

TestScope(object, actor)

Returns true if the *object* is in scope, otherwise false. If the optional *actor* is supplied, that defines the scope.

TrvNumber(*expr*)

Parses word *expr* in the input stream as a number, recognising decimals, also English words one..twenty. Returns the number 1..10000, or -1000 if the parse fails.

UnsignedCompare(expr1, expr2)

Returns –1 if *expr1* is less than *expr2*, 0 if *expr1* equals expr2, and 1 if expr1 is greater than expr2. Both expressions are unsigned, in the range 0..65535.

WordAddress(expr)

Returns a byte array contains the raw text of word *expr* in the input stream.

WordInProperty(word, object, property)

Returns true if the dictionary *word* is listed in the property values for the object.

WordLength(*expr*)

Returns the length of word *expr* in the input stream.

WriteListFrom(object,expr)

Outputs a list of *object* and its siblings, in the given style, an *expr* formed by adding any of: ALWAYS BIT. CONCEAL BIT, DEFART BIT, ENGLISH BIT, FULLINV BIT, INDENT BIT, ISARE BIT, NEWLINE BIT, PARTINV BIT, RECURSE BIT, TERSE BIT, WORKFLAG BIT.

YesOrNo()

Returns true if the player types "YES", false for "NO".

ZRegion(*arg*)

Returns the type of its *arg*: 3 for a string address, 2 for a routine address, 1 for an object number, or 0 otherwise.

2

•• Object properties •••••••••

Where the *value* of a property can be a routine, several formats are possible (but remember: embedded "1" returns false, standalone "]" returns true,):

property [; statement; statement; ...]

property [; return routine();]

property [; routine();]

property routine

"⊕" marks an additive property: such properties in an Object definition supplement, rather than supersede, the same properties in a Class definition (and are dealt with first).

add to scope

For an object: additional objects which follow it in and out of scope. The value can be: a space-separated list of *objects*, or a routine which invokes PlaceInScope() or ScopeWithin() to specify objects.

after ⊕

For an object: receives every action and fake action for which this is the *noun*.

For a room: receives every *action* which occurs here.

The *value* is a routine of structure similar to a switch statement, having cases for the appropriate actions (and an optional default as well); it is invoked after the action has happened, but before the player has been informed. The routine should return: false to continue, telling the player what has happened, or true to stop processing the action and produce no further output.

article

For an object: the object's indefinite article - the default is automatically "a", "an" or "some". The value can be: a string, or a routine which outputs a string.

articles

For a non-English object: its definite and indefinite articles. The *value* is an array of strings.

before ⊕

3

For an object: receives every action and fake action for which this is the *noun*.

For a room: receives every *action* which occurs here.

The *value* is a routine invoked before the action has happened. See after.

cant go

For a room: the message when the player attempts an impossible exit. The value can be: a string, or a routine which outputs a string.

capacitv

For a container or supporter object: the number of objects which can be placed in or on it - the default is 100. For the player: the number which can be carried selfobi has an initial capacity of MAX CARRIED.

The *value* can be: a number, or a routine which returns a number.

d to

For a room: a possible exit. The *value* can be:

- false (the default): not an exit;
- a string: output to explain why this is not an exit;
- a *room*: the exit leads to this room:
- a door object: the exit leads through this door;
- a routine which should return: false, a string, a room, a door object, or true to signify 'not an exit' and produce no further output.

daemon

The *value* is a routine which can be activated by StartDaemon(*object*) and which then runs once each turn until deactivated by StopDaemon(*object*).

describe ⊕

For an object: called before the object's description is output. For a room: called before the room's (long) description is output.

The *value* is a routine which should return: false to continue, outputting the usual description, or true to stop processing and produce no further output.

description

For an object: its description (output by Examine). For a room: its long description (output by Look).

The *value* can be: a string, or a routine which outputs a string.

door dir

For a compass object (d obj, e obj, ...): the direction in which an attempt to move to this object actually leads. For a door object: the direction in which this door leads.

The *value* can be: a directional property (d to, e to, ...), or a routine which returns such a property.

door to

For a door object: where it leads. The *value* can be:

- false (the default): leads nowhere;
- a string: output to explain why door leads nowhere;
- a *room*: the door leads to this room:
- a routine which should return: false, a string, a room. or true to signify 'leads nowhere' without producing any output.

e to

See d to.

each turn ⊕

Invoked at the end of each turn (after all appropriate daemons and timers) whenever the object is in scope. The value can be: a string, or a routine.

found in

For an object: the rooms where this object can be found. unless it has the absent attribute. The value can be:

- a space-separated list of *rooms* (where this object can be found) or *objects* (whose locations are tracked by this object);
- a routine which should return: true if this object can be found in the current location, otherwise false.

grammar

For an animate or talkable object: the *value* is a routine called when the parser knows that this object is being addressed, but has yet to test the grammar. The routine should return: false to continue, true to indicate that the routine has parsed the entire command, or a dictionary word ('word' or -'word').

in to

See d to.

initial

For an object: its description before being picked up. For a room: its description when the player enters the room.

The value can be: a string, or a routine which outputs a string.

inside description

For an enterable object: its description, output as part of the room description when the player is inside the object.

3

The *value* can be: a string, or a routine which outputs a string.

invent

For an object: the *value* is a routine for outputting the object's inventory listing, which is called twice. On the first call nothing has been output; inventory_stage has the value 1, and the routine should return: false to continue or true to stop processing and produce no further output. On the second call the object's indefinite article and short name have been output, but not any subsidiary information; inventory_stage has the value 2, and the routine should return: false to continue or true to stop processing and produce no true to stop processing and produce no true to stop processing and produce no further output.

life ⊕

For an animate object: receives person-to-person actions (Answer Ask Attack Give Kiss Order Show Tell ThrowAt WakeOther) for which this is the noun. The value is a routine of structure similar to a switch statement, having cases for the appropriate actions (and an optional default as well). The routine should return: false to continue, telling the player what has happened, or true to stop processing the action and produce no further output.

list_together

For an object: groups related objects when outputting an inventory or room contents list. The *value* can be:

- a *number*: all objects having this value are grouped;
- a *string*: all objects having this value are grouped as a count of the string;
- a routine which is called twice. On the first call nothing has been output; inventory_stage has the value 1, and the routine should return: false to continue, or true to stop processing and produce no further output. On the second call the list has been output; inventory_stage has the value 2, and there is no test on the return value.

n_to

See d_to.

name ⊕

Defines a space-separated list of words which are added to the Inform dictionary. Each word can be supplied in apostrophes '...' or quotes "..."; in all other cases only words in apostrophes update the dictionary.

For an object: identifies this object.

For a room: outputs "does not need to be referred to".

ne_to

See d_to.

number

For an object or room: the *value* is a general-purpose variable freely available for use by the program. A player object must provide (but not use) this variable.

nw_to

See d_to.

orders

For an animate or talkable object: the *value* is a routine called to carry out the player's orders. The routine should return: false to continue, or true to stop processing the action and produce no further output.

out_to

See d_to.

parse_name

For an object: the *value* is a routine called to parse an object's name. The routine should return: zero if the text makes no sense, -1 to cause the parser to resume, or the positive number of words matched.

plural

For an object: its plural form, when in the presence of others like it. The *value* can be: a string, or a routine which outputs a string.

react_after

For an object: detects nearby actions – those which take place when this object is in scope. The *value* is a routine invoked after the action has happened, but before the player has been informed. See after.

react_before

For an object: detects nearby actions – those which take place when this object is in scope. The *value* is a routine invoked before the action has happened. See after.

s_to

se_to

See d_to.

short_name

For an object: an alternative or extended short name. The *value* can be: a string, or a routine which outputs a string. The routine should return: false to continue by outputting the object's 'real' short name (from the head of the object definition), or true to stop processing the action and produce no further output.

short_name_indef

For a non_English object: the short name when preceded by an indefinite object. The *value* can be: a string, or a routine which outputs a string.

sw_to

See d_to.

time_left

For a timer object: the *value* is a variable to hold the number of turns left until this object's timer – activated and initialised by StartTimer(*object*) – counts down to zero and invokes the object's time_out property.

time_out

For a timer object: the *value* is a routine which is run when the object's time_left value – initialised by StartTimer(*object*), and not in the meantime cancelled by StopTimer(*object*) – counts down to zero.

u_to

w_to

See d_to.

when_closed

when_open

For a container or door object: used when including this object in a room's long description. The *value* can be: a string, or a routine which outputs a string.

when_off when on

For a switchable object: used when including this object in a room's long description. The *value* can be: a string, or a routine which outputs a string.

with_key

For a lockable object: the 'key' *object* needed to lock and unlock the object, or nothing if no key fits.

•• Object attributes ••••••••••••	pluralname
absent	For an object: is plural.
For a 'floating' object (one with a found_in property,	proper
which can appear in many rooms): is no longer there.	For an object: the short name is a proper noun, therefor
animate	not to be preceded by "The" or "the".
For an object: is a living creature.	scenery
clothing	For an object: can't be taken; is not listed in a room
For an object: can be worn.	description.
concealed	scored
For an object: is present but hidden from view.	For an object: awards OBJECT_SCORE points when taker
container	for the first time. For a room: awards ROOM_SCORE point
For an object: other objects can be put in (but not on) it.	when visited for the first time.
door	
For an object: is a door or bridge between rooms.	For an object: can't be taken.
edible	supporter
For an object: can be eaten.	For an object: other objects can be put on (but not in) it
enterable	switchable
For an object: can be entered.	For an object: can be switched off or on.
female	talkable
For an animate object: is female.	For an object: can be addressed in "object, do this" style
general	transparent
For an object or room: a general-purpose flag.	For a container object: objects inside it are visible.
light	visited
For an object or room: is giving off light	For a room: is being, or has been, visited by the player.
lockable	workflag
For an object: can be locked: see the with key property	Temporary internal flag, also available to the program.
locked	worn
For an object: can't be opened	For a clothing object: is being worn.
malo	
For an animate object is male	•• Optional entry points •••••••••••
ror an antimate object. Is male.	These routines, if you supply them, are called when shown
For an object, is being or best been taken by the player	AfterLife()
For an object. Is being, of has been, taken by the player.	The player has died. Setting deadflag to 0 resurrects he
neuter East an animate abiate is a sither made and formals	AfterPrompt()
For an animate object: is neither male nor lemale.	The ">" prompt has been output.
on	Amusing()
For a switchable object: is switched on.	The player has won and AMUSING_PROVIDED is defined.
open	BeforeParsing()
For a container or door object: 18 open.	The parser has input some text, set up the buffer and par
openable	tables, and initialised wn to 1, but done nothing else.
For a container or door object: can be opened.	
5	

ChooseObjects(object, flag) Parser has found "ALL" or an ambiguous noun phrase and decided that *object* should be excluded (flag is 0), or included (flag is 1). The routine should return: 0 to let a proper noun, therefore this stand, 1 to force inclusion, or 2 to force exclusion. If flag is 2, the parser is undecided, and the routine should return an appropriate score 0..9. DarkToDark() The player has moved from one dark room to another. DeathMessage() SCORE points when taken The player has died and deadflag is 3 or more. wards ROOM SCORE points GamePostRoutine() Called after all *actions*. GamePreRoutine() Called before all actions. Initialise() be put on (but not in) it. Mandatory; note British spelling: called at start. Must set location; can return 2 to suppress game banner. InScope() Called during parsing. in "object, do this" style. LookRoutine() Called at the end of every Look description. NewRoom() Called when room changes, before description is output. ParseNoun(object) Called to parse the *object*'s name. ParseNumber(byte_array,length) Called to parse a number. ParserError(number) Called to handle an error. PrintRank() n, are called when shown. Completes the output of the score. PrintTaskName(number) dflag to 0 resurrects her. Prints the name of the task. PrintVerb(addr) Called when an unusual verb is printed. TimePasses() Called after every turn. UnknownVerb() set up the buffer and parse Called when an unusual verb is encountered.

5

1	•• Group	1 actions ••••••••••••••	SwitchOn	"SCREW ON", "SWITCH ON", "TURN ON",	Sing
Group 1 actions support the 'meta' verbs and debug tools.			"TWIST ON"	Sleep	
	1		Take	"CARRY", "GET", "HOLD", "PEEL [OFF]",	Smell
	•• Group	2 actions ••••••••••••••		"PICK UP", "REMOVE", "TAKE"	Sorry
Group 2 actions usually work, given the right circumstances.		ions usually work, given the right circumstances.	Transfer	"CLEAR TO", "MOVE TO", "PRESS TO", "PUSH TO",	Squeeze
These are the standard actions and their triggering verbs.			"SHIFT TO", "TRANSFER TO"	Strong	
	Close	"CLOSE [UP]", "COVER [UP]", "SHUT [UP]"	Unlock	"OPEN WITH", "UNDO WITH", "UNLOCK WITH"	Swim
	Disrobe	"DISROBE", "DOFF", "REMOVE", "SHED",	VagueGo	"GO", "LEAVE", "RUN", "WALK"	Swing
		"TAKE OFF"	wear	"DON", "PUT ON", "WEAR"	Taste
	Drop	"DISCARD", "DROP", "PUT DOWN", "THROW"		2 actions and an an an an an an	Tell
	Eat	"EAT"	•• Group		Think
	Empty	"EMPTY [OUT]"	Group 3 actions are by default stubs which output a message Th		ThrowA
	EmptyT	"EMPTY IN INTO ON ONTO TO"	and stop at	the before stage (so there is no after stage).	Tie
	Enter	"CROSS", "ENTER", "GET IN INTO ON ONTO",	Answer	"ANSWER TO", "SAY TO", "SHOUT TO", "SPEAK TO"	
		"GO IN INSIDE INTO THROUGH",	Ask	"ASK ABOUT"	Touch
		"LEAVE IN INSIDE INTO THROUGH",	AskFor	"ASK FOR"	Turn
		"PUN INIINSIDELINIOITHPOUCH"	Attack	"ATTACK", "BREAK", "CRACK", "DESTROY", "ETCUT", "UTT", "KILL", "MUDDED", "DUNCU"	Wait
		"SIT IN/INSIDE/ON". "SIT ON TOP OF".		FIGHI, HII, KILL, MUKDER, PUNCH, "SMASH" "THIMP" "TORTURE" "WRECK"	Wake
		"STAND ON", "WALK IN INSIDE INTO THROUGH"	Blow	"BLOW"	Wake0t1
	Examine	"CHECK," "DESCRIBE", "EXAMINE", "L[OOK] AT",	Burn	"BURN (WITH)" "LIGHT (WITH)"	Wave
		"READ", "WATCH", "X"	Buy	"BUY" "PURCHASE"	WaveHa
	Exit	"EXIT", "GET_OFF OUT UP", "LEAVE",	Climb	"CLIMB [OVERIUP1", "SCALE"	Yes
		"OUT[SIDE]", "STAND [UP]"	Consult	"CONSULT ABOUTION". "LOOK UP IN".	
	GetOff	"GET OFF"		"READ ABOUT IN", "READ IN"	•• rai
	Give	"FEED [TO]", "GIVE [TO]", "OFFER [TO]", "DAY [TO]"	Cut	"CHOP," "CUT", "PRUNE", "SLICE"	LetGo
	6.	[AT [IU]]	Dig	"DIG [WITH]"	ListMi
	GO	GU, LEAVE, KUN, WALK	Drink	"DRINK", "SIP", "SWALLOW"	Miscel
	GOIN	CRUSS, ENTER, IN[SIDE] "DISCARD INLINIO" "DROR DOWNLINLINIO"	Fill	"FILL"	NotUnde
	Insert	"INSERT INITATO", "PUT INITATIONIO",	Jump	"HOP", "JUMP", "SKIP"	Order
		"THROW DOWN IN IN INTO"	Jump0ver	"HOP OVER", "JUMP OVER", "SKIP OVER"	Plurall
	Inv	"I[NV]", "INVENTORY", "TAKE INVENTORY"	Kiss	"EMBRACE", "HUG", "KISS"	1 1 1 1 1 1 1
	InvTall	"I[NV] TALL", "INVENTORY TALL"	Listen	"HEAR", "LISTEN [TO]"	Prompt
	InvWide	"I[NV] WIDE", "INVENTORY WIDE"	LookUnder	"LOOK UNDER"	Receive
	Lock	"LOCK WITH"	Mild	Various mild swearwords.	TheSame
	Look	"L[00K]"	No	"NO"	
	0pen	"OPEN", "UNCOVER", "UNDO", "UNWRAP"	Pray	"PRAY"	Thrown/
	PutOn	"DISCARD ON ONTO", "DROP ON ONTO",	Pull	"DRAG" "PULL"	
		"PUT ON ONTO", "THROW ON ONTO"	Push	"CLEAR", "MOVE", "PRESS", "PUSH", "SHIFT"	
	Remove	"GET FROM", "REMOVE FROM", "TAKE FROM OFF"	PushDir	"CLEAR", "MOVE", "PRESS", "PUSH", "SHIFT"	
	Search	"L[OOK] IN INSIDE INTO THROUGH", "SEARCH"	Rub	"CLEAN", "DUST", "POLISH", "RUB", "SCRUB",	
	Show	"DISPLAY [TO]", "PRESENT [TO]", "SHOW [TO]"	C . t	"SHINE", "SWEEP", "WIPE"	
	SwitchOff	"CLOSE OFF", "SCREW OFF", "SWITCH OFF",	set SetTe	AUJUSI, SEI "ADUUCT TO" "CET TO"	
6		"IURN UFF", "IWISI OFF"	Setio	ADJUST TU, SET TU	
U	,				1

"SING" ing "NAP", "SLEEP" leep "SMELL", "SNIFF" nell "SORRY" orry "SQUASH", "SQUEEZE" queeze Various strong swearwords. trong "DIVE", "SWIM" im "SWING [ON]" ing "TASTE" aste ell "TELL ABOUT" "THINK" nink "THROW AGAINST | AT | ON | ONTO" rowAt "ATTACH [TO]", "FASTEN [TO]", "FIX [TO]", i e "TIE [T0]" "FEEL," "FONDLE", "GROPE", "TOUCH" ouch "ROTATE", "SCREW", "TURN", "TWIST", "UNSCREW" ırn "WAIT" "Z" it "AWAKE[N]", "WAKE [UP]" ike akeOther "AWAKE[N]", "WAKE [UP]" "WAVE" ave aveHands "WAVE" "Y[ES]" S • Fake actions ••••••••• Generated by Remove. tGo istMiscellany Outputs a range of inventory messages. scell tUnde der lurall

· · · · · ,	
scellany	Outputs a range of utility messages.
tUnderstood	Generated when the parser fails to interpret some orders.
der	Receives things not handled by orders.
uralFound	Tells the parser that parse_name() has identified a plural object.
ompt	Outputs the prompt, normally ">".
eceive	Generated by Insert and PutOn.
neSame	Generated when the parser can't distinguish between two objects.
rownAt	Generated by ThrowAt.

6

6