ASN.1. Communication between heterogeneous systems – Errata

These errata concern the June 5, 2000 electronic version of the book "ASN.1. Communication between heterogeneous systems", by Olivier Dubuisson (© 2000).
(freely available at http://www.oss.com/asn1/resources/books-whitepapers-pubs/asn1-books.html#dubuisson.)

N.B.: *The first page number refers to the PDF electronic copy and is the number printed on each page, not the number at the bottom of the Acrobat Reader window. The page number in parentheses refers to the paper copy published by Morgan Kaufmann.*

- Page 9 (page 8 for the paper copy):
  - last line, replace "(the number 0 low-weighted byte" with "(the number 0 low-weighted bit".

- Page 19 (page 19 for the paper copy):
  - on the paper copy, second bullet, replace "the Physical Layer marks up..." with "the Data Link Layer marks up...".
  - on the electronic copy, second bullet, replace "it is down to the Physical Layer to mark up..." with "it is down to the Data Link Layer to mark up...".

- Page 25 (page 25 for the paper copy):
  second paragraph, replace "that all the data exchange" with "that all the data exchanged".

- Page 32 (page 32 for the paper copy):
  last paragraph, replace "The order number has at least 12 digits" with "The order number has always 12 digits".

- Page 34 (page 34 for the paper copy):
  first paragraph, replace "it will be computed again since..." with "it will be computed again because...".

- Page 37 for the electronic copy only:
  in the definition of Quantity, replace "unites" with "units".

- Page 104 (page 104 for the paper copy):
  - in rule <34>, delete ", digits";
  - at the end of section 8.3.2, add the following paragraph:
  Symbols such as "{", "[", "[[", etc, are also lexical tokens of the ASN.1 notation. They are not detailed here.

- Page 109 (page 109 for the paper copy):
  in production *Value*, add an alternative *ObjectClassFieldValue*.

- Page 115 (page 115 for the paper copy):
  in rule <17>, replace "and should not be referenced in the body of that module)." with "and should not be defined in the body of that module)."

- Page 120 (page 120 for the paper copy):
  in rule <19>, delete "and *ParameterizedObjectAssignment*"

- Page 121 (page 121 for the paper copy):
  replace rule <28> with "**objectsetreference** must name an*ObjectSetAssignment* of the module referenced by**modulereference**."

- Page 136 (page 136 for the paper copy):
  3rd paragraph, last sentence: replace "Two ENUMERATED types cannot be compatible either." with "Two ENUMERATED types cannot be compatible if they don't have the same named number list."

- Page 140 (page 140 for the paper copy):
  in rule <12>, replace "already used in the *NamedNumber*s that precede it syntactically" with "already used in the *NamedNumber*s of the extension root (whether they syntactically precede or follow the identifier that is being numbered)".

- Page 161 (figure 10.4) and page 397 (last paragraph):
  replace the base-encoding identifier with basic-encoding.

- Page 169:
  in the first example, replace relative-oids with relative-oid.

- Page 200 for the paper copy:
  replace bullet 2 at the top of the page with:
  "2. the time with an hour, minute or second precision (or even fractions of an hour, minute or second respectively) according to the precision of the communcating application; and".

- Page 201 for the paper copy:
  in rule <2>, replace bullet *a* with "*a*) a string of the form "AAAAMMJJ[hh[mm[ss]][(.|,)f$^+$]]"[34] standing for a local time, four digits for the year, two for the month, two for the day, followed by two digits for the hour (the value 24 is forbidden), two for the minutes and two for the seconds, if required, then a dot (or a comma), and a number for the fractions of hour, minute or second respectively (the maximum precision depends on the application) [ISO8601][35]; or".
  At the end of footnote [34], add: "The '+' symbol means that any (non-null) number of digits can be found in the fractional part.".

- Page 222 (page 223 for the paper copy):
  in the definition of *ComponentTypeLists*, replace three occurences of E*xtensionsAdditions* with *ExtensionAdditions*.

- Page 227 (page 227 for the paper copy):
  in the definition of *ComponentTypeLists*, replace three occurences of *ExtensionsAdditions* with *ExtensionAdditions*.

- Page 228 (page 229 for the paper copy):
  - in rule <14>, replace "must have distinct tags" with "must have distinct outermost tags";
  - in rule <15>, replace "the tags of each component" with "the outermost tag of each component".

- Page 231 (pages 231&232 for the paper copy):
  - in the 3rd paragraph, replace the 4th (and beginning of 5th) line with: type, and finally an element number in the value or the "*" symbol for denoting all the elements or the "0" digit for denoting the number of elements.
  - in the comment that follows this paragraph, replace the second line with:
    -- @PariTierce.SteepleChase.1 = 5 (horse no. 5 always wins!)
  - in the following block of comments, replace the second line with:
    -- SteepleChase.1 = 5 (horse no. 5 always wins!)

- Page 237 (not on the paper copy):
  at the beginning of rule <3>, replace "extension makers" by "extension markers".

- Page 251 (page 251 for the paper copy):
  third bullet: replace "The tags of the extensions" with "The outermost tags in the extension".

- Page 259 (page 259 for the paper copy):
  - Add at the end of rule <2>: All values in each subtype constraint have to be values in the (possibly constrained) parent type.
  - Delete rule <3>.
  - Add at the end of rule <7>: All values of the subtype constraint have to be values of the extension root of the parent type.

- Page 260 (page 260 for the paper copy):
  - Add at the end of rule <8>: All values of the subtype constraint have to be values of the extension root of the parent type.

- Page 272 (page 272 for the paper copy):
  replace the second occurence of "\d" (word boundary) with "\b".

- Page 281 (page 282 for the paper copy):
  delete rule <16> and replace rule <15> with "When the parent type isSET or SEQUENCE, a component marked DEFAULT cannot have a*PresenceConstraint* applied to it."

- Page 282 (page 285 for the paper copy):
  Delete footnote 12.

- Page 284 for the electronic copy only:
  in the definition of value pdf, replace "-- OID pour le codage PDF --" with "-- *OID for the PDF encoding* --".

- Page 291 (page 291 for the paper copy), section 13.12.1:
  - 3rd paragraph: replace the first sentence with:
  Note that contrary to the constructed types SEQUENCE, SET andCHOICE, there is neither a second extension marker, nor version double square brackets "[[" and "]]" to indicate the different possible extensions (mainly for the reason that only one extension can be added to a subtype constraint!).
  - 4th paragraph: replace the first sentence with:

The set of (abstract) values of a subtype defined with an extensible constraint is simply given by the union of the set of values of the extension root and the set of values of the (single) extension addition (if present).

- Page 294 (page 294 for the paper copy), rule <6>:
  replace the last sentence with: "The (single) extension appears after this marker."

- Page 334 (not on the paper copy):
  at the end of rule <21>, replace "extension makers" by "extension markers".

- Page 349 (page 352 for the paper copy):
  add a new rule <23bis> *DefinedObjectSet* cannot (syntactically) be a parameterized information object set.

- Page 353 (page 355 for the paper copy):
  replace the definition of type AttributeValueAssertion with:
  AttributeValueAssertion ::= SEQUENCE {
    type ATTRIBUTE.&id({SupportedAttributes}),
    value ATTRIBUTE.&equality-match.&AssertionType
        ({SupportedAttributes}{@type}) }

- Page 354 (page 356 for the paper copy):
  in the definition of type FilterItem, replace Attribute withATTRIBUTE on the line that defines component type.

- Page 358 (page 360 for the paper copy):
  in rule <1>, replace id par &id in the WITH SYNTAX statement.

- Page 402 (page 404 for the paper copy), replace the beginning of the paragraph with the formula with:
  "The encoded real number is therefore equivalent to S x N x 2^{FF} xBB^{EE} (taking the values of S, FF, BB and EE in base 10), where S x N x 2^{FF}, BB and EE are unrelated...".

- Page 416 (page 418 for the paper copy):
  replace the two last boxes on the right-hand side

(i.e., " | 6_{10} | | 11xxxxxx | ")

with " | 4_{10} | | 1100xxxx | ".

- Page 439 (page 441 for the paper copy), second item after "In unaligned variant", replace "l_{max} <= 65,535" with "l_{max} - l_{min} <= 65,534".

- Page 440 (page 443 for the paper copy):
  replace "the length is encoded" with "the length in octets is encoded".

- Page 444 (page 447 for the paper copy):
  replace only the second occurence of "B x l_{max} >= 17" with "B x l_{max}>= 16".

- Page 445 (page 448 for the paper copy:
  replace the second paragraph (the first paragraph for the paper copy) with "Dates of GeneralizedTime and UTCTime types are special cases of the known-multiplier character string type VisibleStringand are encoded by application of the preceding paragraphs on the **V**field of a BER encoding for the basic PER variant and on the **V** field of a DER encoding for the canonical PER variant (see Table 19.2)."

- Page 447 (page 449 for the paper copy):
  replace "every component of the extension root" with "every component of the extension root (in two parts if two extension markers are present)".

- Page 447 (page 450 for the paper copy), section 20.6.13:
  replace "(in the textual order)" with "(according to the canonical order)".

- Page 526 (page 528 for the paper copy), section Bibliography:
  replace "[ISO2375]" with "[ISO2375] Information technology -- Procedure for registration of escape sequences and coded character sets. - International Standards ISO 2375:2003. http://www.iso.org/iso/en/CatalogueDetailPage.CatalogueDetail?CSNUMBER=32184".

- Page 527 (page 528 for the paper copy), section Bibliography:
  replace "[ISO6937]" with "[ISO6937] Information technology -- Coded graphic character set for text communication -- Latin alphabet. - International Standards ISO/IEC 6937:2001. http://www.iso.org/iso/en/CatalogueDetailPage.CatalogueDetail?CSNUMBER=31393".

- Page 528 (page 529 for the paper copy), section Bibliography:
  replace "[ISO8601]" with "[ISO8601] Data elements and interchange formats -- Information interchange -- Representation of dates and times. - International Standards ISO 8601:2000. http://www.iso.org/iso/en/CatalogueDetailPage.CatalogueDetail?CSNUMBER=26780".

- Page 532 (page 533 for the paper copy), section Bibliography:
  replace "[ISO8859]" with "[ISO8859] Information technology -- 8-bit single-byte coded graphic character sets -- Part 1: Latin alphabet No. 1. 1, ISO 8859-1:1998. Part 2: Latin alphabet No. 2, ISO 8859-2:1999. Part 3: Latin alphabet No. 3, ISO 8859-3:1999. Part 4: Latin alphabet No. 4 , ISO 8859-4:1998. Part 5: Latin/Cyrillic alphabet, ISO 8859-5:1999. Part 6: Latin/Arabic alphabet, ISO 8859-6:1999. Part 7: Latin/Greek alphabet, ISO 8859-7:2003. Part 8: Latin/Hebrew alphabet, ISO 8859-8:1999. Part 9: Latin alphabet No. 5, ISO 8859-9:1999.
  http://www.iso.org/iso/en/CatalogueDetailPage.CatalogueDetail?CSNUMBER=28245,
  http://www.iso.org/iso/en/ CatalogueDetailPage.CatalogueDetail?CSNUMBER=28246,
  http://www.iso.org/iso/en/ CatalogueDetailPage.CatalogueDetail?CSNUMBER=28247,
  http://www.iso.org/iso/en/ CatalogueDetailPage.CatalogueDetail?CSNUMBER=28248,
  http://www.iso.org/iso/en/ CatalogueDetailPage.CatalogueDetail?CSNUMBER=28249,
  http://www.iso.org/iso/en/ CatalogueDetailPage.CatalogueDetail?CSNUMBER=28250,
  http://www.iso.org/iso/en/ CatalogueDetailPage.CatalogueDetail?CSNUMBER=38580,

http://www.iso.org/iso/en/ CatalogueDetailPage.CatalogueDetail?CSNUMBER=28252, http://www.iso.org/iso/en/ CatalogueDetailPage.CatalogueDetail?CSNUMBER=28253."

- Page 533 (page 535 for the paper copy), section Bibliography:
  replace "[ISO9735]" with "[ISO9735] Electronic data interchange for administration, commerce and transport (EDIFACT) - Application level syntax rules (Parts 1 to 9). - International Standards ISO/IEC 9735:1988. http://www.iso.org/iso/en/CatalogueDetailPage.CatalogueDetail?CSNUMBER=17592."

- Page 534 (page 535 for the paper copy), section Bibliography:
  replace "[ISO9834-1]" with "[ISO9834-1] Procedures for the Operation of OSI Registration Authorities: General Procedures and ASN.1 Object Identifier tree top arcs. - ITU-T Rec. X.660 (2004) | ISO/IEC 9834-1:2004. http://www.iso.org/iso/en/CatalogueDetailPage.CatalogueDetail?CSNUMBER=17705".

- Page 534 (page 535 for the paper copy), section Bibliography:
  replace "[ISO10646-1]" with "[ISO10646] Information technology -- Universal Multiple-Octet Coded Character Set (UCS). - International Standards ISO/IEC 10646:2003. http://www.iso.org/iso/en/CatalogueDetailPage.CatalogueDetail?CSNUMBER=39921, http://www.unicode.org/, http://anubis.dkuug.dk/jtc1/sc2/wg2/, http://www-106.ibm.com/developperworks/library/utfencodingforms/ (see also [Uni96])."

- Page 538 (page 539 for the paper copy), section Bibliography:
  replace "[Tan96]" with "[Tan96] TANENBAUM (A.). - Computer Networks, 4th Edition. - Prentice Hall, 2002. ISBN: 0130661023, http://www.phptr.com/title/0130661023".

- Page 539 (page 539 for the paper copy), section Bibliography:
  replace "[Uni96]" with "[Uni96] Unicode Consortium. - The Unicode Standard, Version 4.0. - Addison-Westley, 2003. ISBN: 0321185781, http://www.awprofessional.com/title/0321185781".