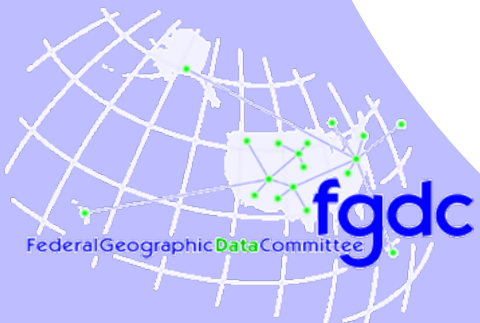
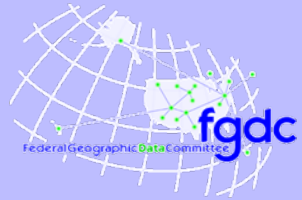


Introduction to Metadata

Value of Metadata

An overview of the value of metadata to geospatial data distribution, data management and project management.





Learning Objectives

After completing this module the student can:

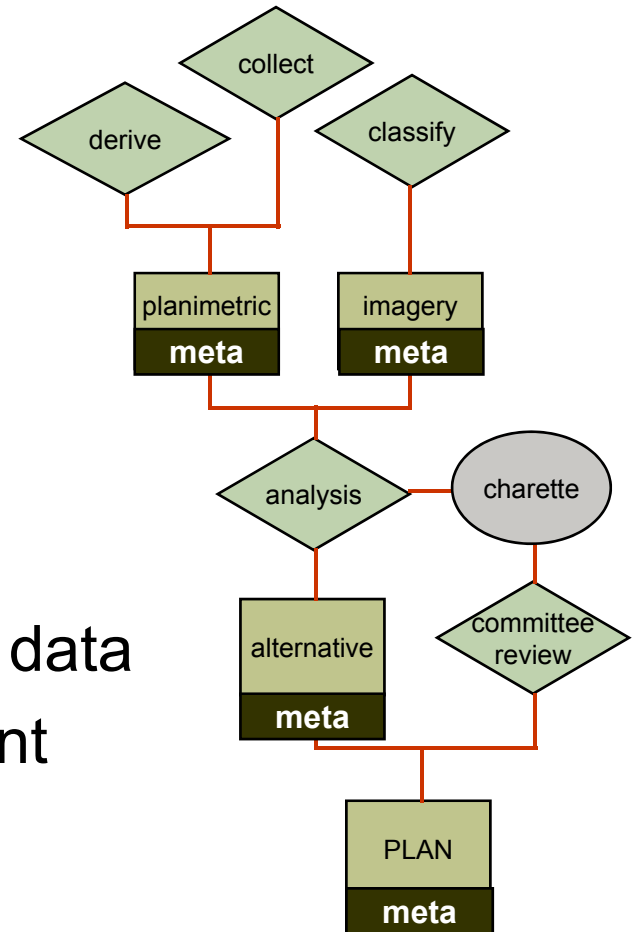
- ▶ explain the geospatial data distribution role of metadata
- ▶ explain the geospatial data management role of metadata
- ▶ explain the geospatial project role of metadata
- ▶ make the business case for metadata implementation

Metadata can support:

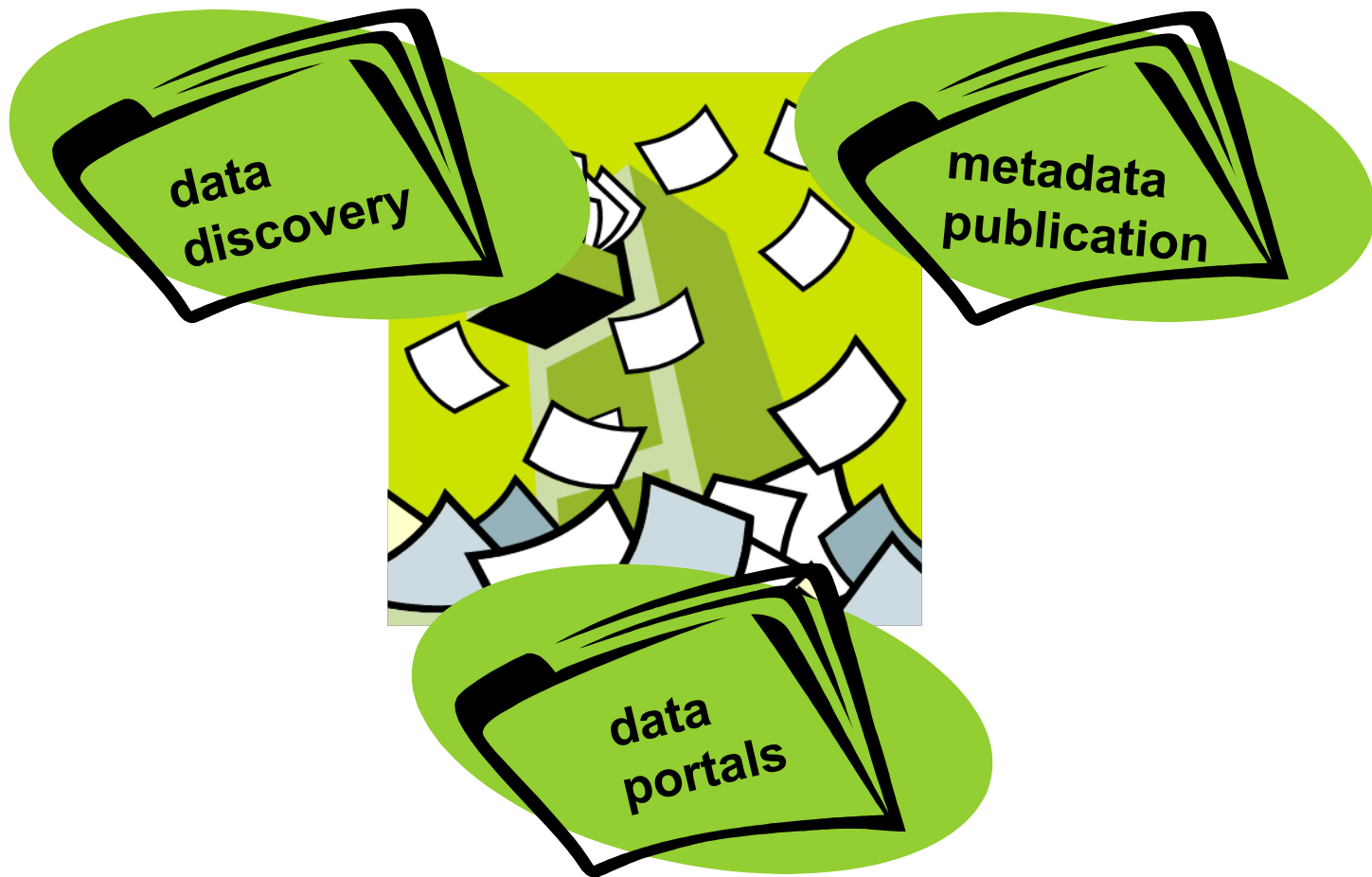
- ▶ data distribution
- ▶ data management
- ▶ project management

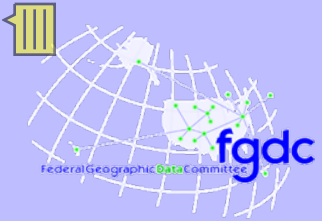
If it is:

- ▶ considered a component of the data
- ▶ created during data development
- ▶ populated with rich content



Data Distribution via Metadata





Distribution: Data Discovery

The descriptive content of the metadata file can be used to identify, assess and access available data resources.

IDENTIFY

- keywords
- geographic location
- time period
- attributes

ASSESS

- use constraints
- access constraints
- data quality
- availability/pricing

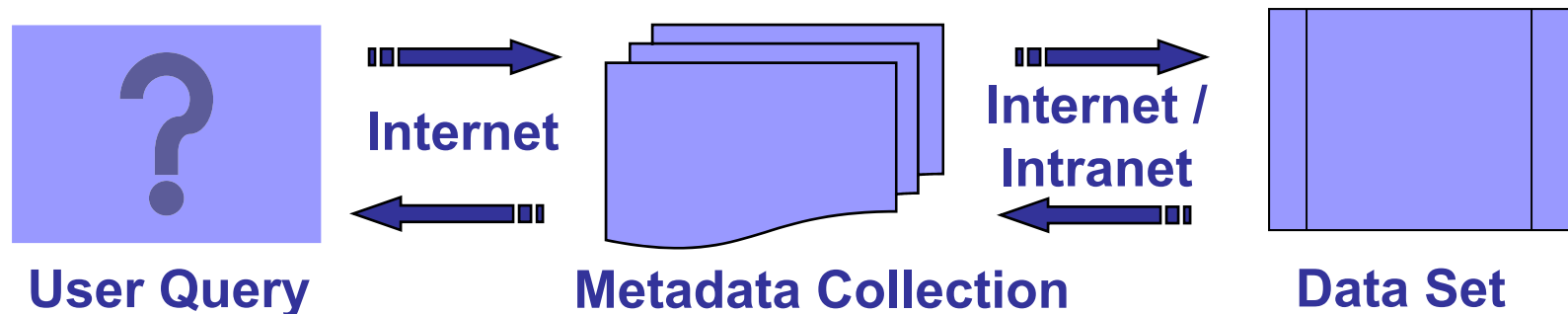
ACCESS

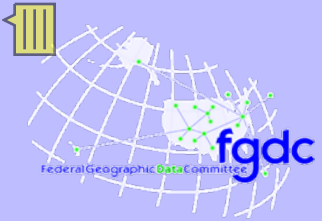
- online access
- order process
- contacts

Distribution: Metadata Publication

A metadata collection can be published to the Internet via:

- ▶ web accessible folder (waf)
- ▶ website catalog
- ▶ Z39.50 metadata clearinghouse
- ▶ metadata service
- ▶ geospatial data portal



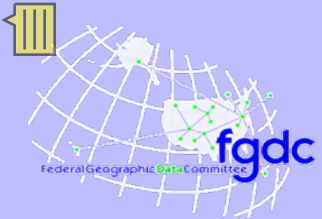


Distribution: Geospatial Data Portals

Federal and National Portals:

- ▶ Geospatial One-Stop (GOS)
Federal e-gov geospatial data portal
www.geodata.gov
- ▶ Geography Network
ESRI sponsored national geospatial data portal
www.geographynetwork.com



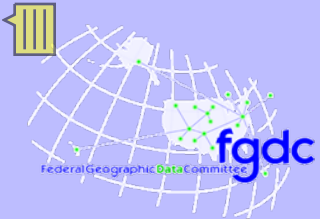


Distribution: Geospatial Data Portals

State Portals:

- ▶ Arkansas GeoStor
<http://www.geostor.arkansas.gov>
- ▶ Delaware DataMIL
<http://datamil.delaware.gov/>
- ▶ NC OneMap
<http://www.nconemap.gov>
- ▶ IndianaMap
<http://www.indianamap.org/>





Distribution: Geospatial Data Portals

Thematic Portals:

- ▶ National Biological Information Infrastructure
various USGS portals to national biological data
<http://www.nbi.gov/portal/server.pt>



- ▶ Ocean Biogeographic Information System
Census of Marine Life portal to marine plant
and animal life data
<http://www.iobis.org>



- ▶ Geospatial Data Gateway:
Natural Resource Data



- USDA portal to national natural resource data
<http://datagateway.nrcs.usda.gov/>



Data Management via Metadata





Management: Maintenance and Update

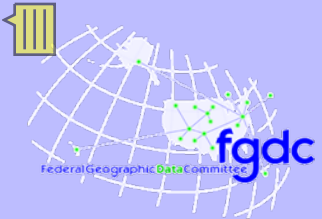
Data Maintenance:

- ▶ Are the data current?
 - older than ten years?
 - prior to the hurricane?
- ▶ Are the data valid?
 - prior to most current source data
 - prior to most current methodologies



Data Update:

- ▶ Contact information
- ▶ Distribution policies, availability, pricing, URLs
- ▶ New derivations of the data set



Management: Data Discovery & Reuse

Metadata marketing in the past...

**If you create metadata,
other people can discover your data**

New and improved message...

**If you create metadata,
you can find your *own* data**

Management: Data Discovery & Reuse

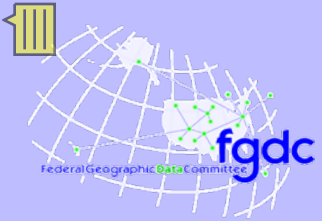
Find your data by:

- ▶ themes / attributes
- ▶ geographic location
- ▶ temporal character
- ▶ analytical methods used
- ▶ sources and contributors
- ▶ data quality



Monument to the Discoverers in Lisbon, Portugal

Discoverable data is usable data



Management: Data Accountability

Metadata is an exercise in data accountability. It requires you to assess:

- ▶ What do you know about the data set?
- ▶ What don't you know about the data set?
- ▶ What should you know about the data set?



Are you willing to associate yourself with the metadata record ?

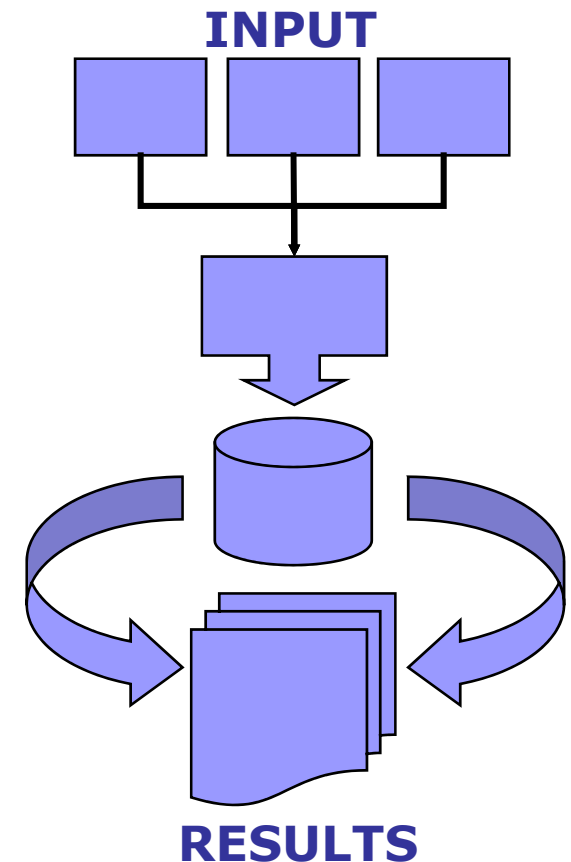
Management: Data Accountability

Repeatable process:

- ▶ methods
- ▶ variables
- ▶ analytical parameters

Defensible process:

- ▶ public participation
- ▶ decision-making
- ▶ increasingly GIS-savvy public requires consumer information



Return on Investment

Catalog assessment:

- ▶ # times data occurs, in-house, as source
- ▶ # times data occurs, external, as source
- ▶ significance of source contribution methods



To facilitate assessment

- ▶ use standardized tilting schemes
- ▶ indicate preferred data set citation w/in Use Constraint Statement



Management: Data Liability

Metadata is a declaration of:

Purpose

- ▶ the originator's intended application of the data

Use Constraints

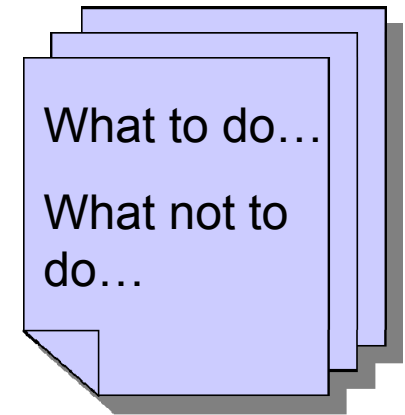
- ▶ inappropriate applications of the data

Completeness

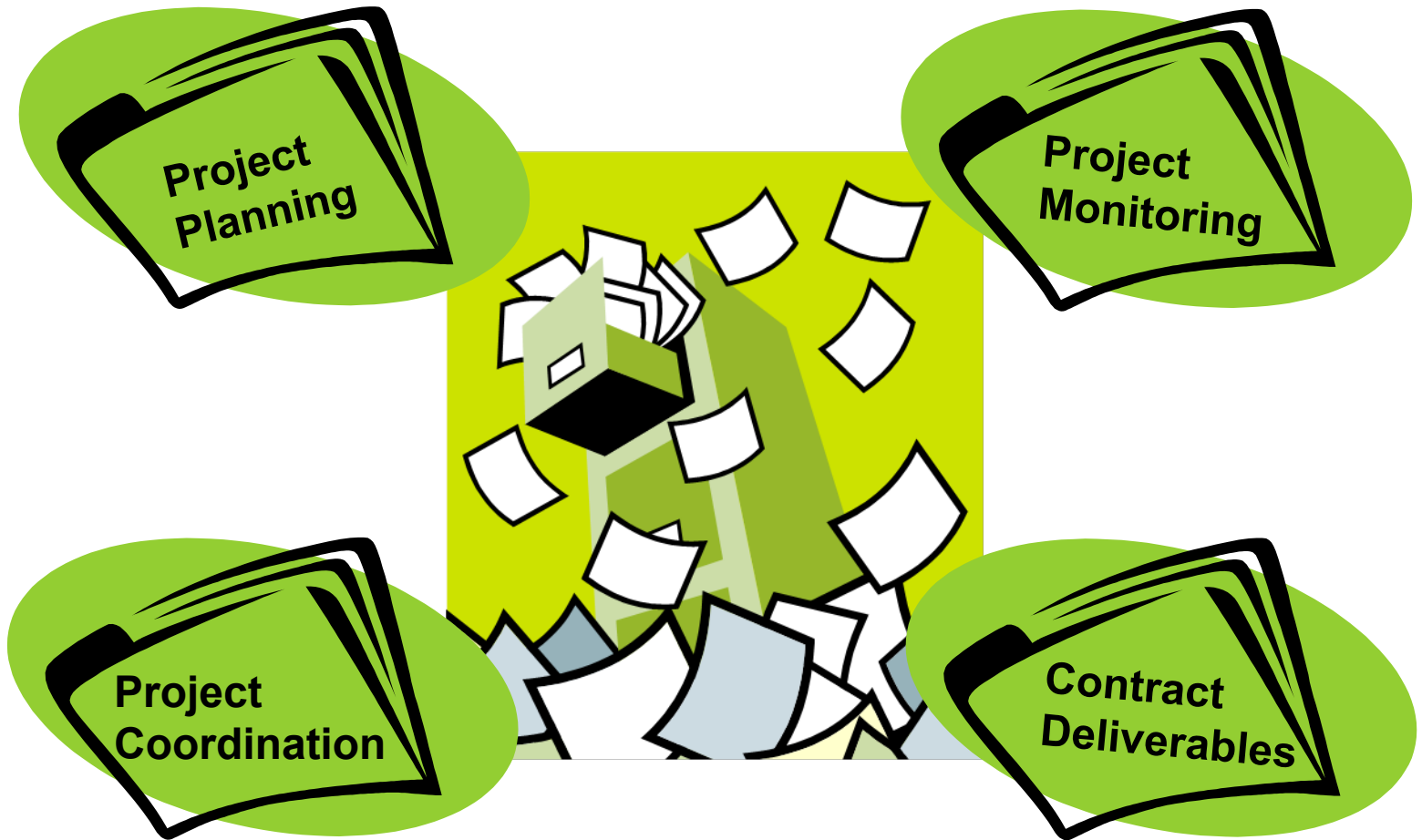
- ▶ features or geographies excluded from the data

Distribution Liability

- ▶ explicit liability of the data producer and assumed liability of the consumer



Project Management via Metadata





Project Management: Project Planning

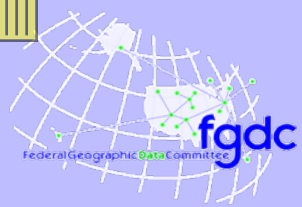
Project design document

- ▶ descriptions & intent
- ▶ geographic and temporal extent
- ▶ source data
- ▶ attributes requirements



Benefits:

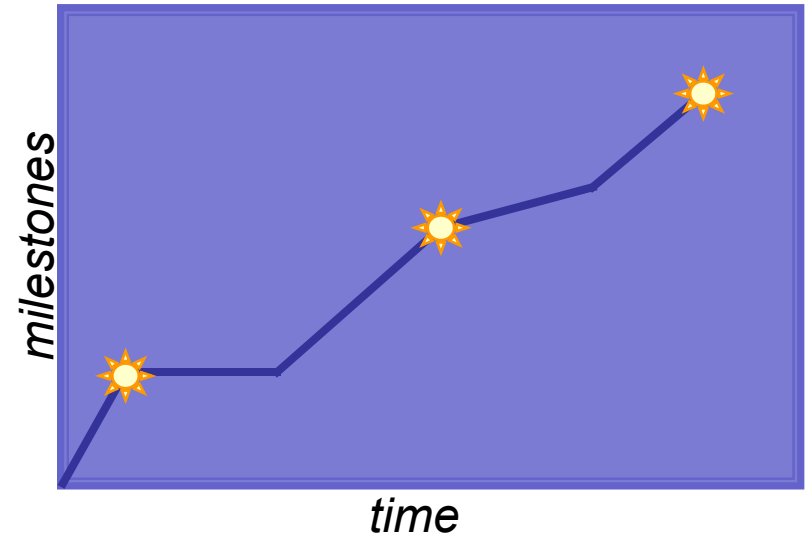
- ▶ expectations are clearly outlined
- ▶ metadata is integrated into the process
- ▶ provide medium to record progress



Project Management: Project Monitoring

Monitor

- ▶ data development status
- ▶ QA/QC assessments
- ▶ needed changes



Requires that the metadata be actively maintained and reviewed

Project Management: Project Coordination

Common reference for:

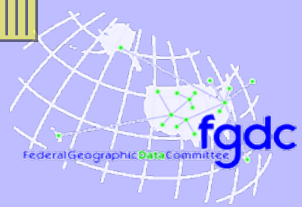
template

- ▶ descriptions & parameters
- ▶ keywords, vocabularies, thesauri
- ▶ contact information
- ▶ attributes
- ▶ distribution information



If reviewed regularly by all participants, improved opportunity for coordinating:

- ▶ source data
- ▶ analytical methods
- ▶ new information



Project Management: Contract Deliverables

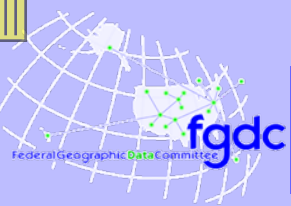
As a key component of the data, metadata should be part of any data deliverable

For best quality metadata, provide:

- ▶ classification and/or validation schema
- ▶ metadata content template
- ▶ metadata specification manual



Provide a sample metadata record if possible



Metadata is simply information about data

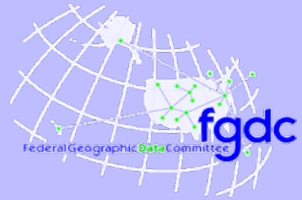
Information that you need to effectively:

- ▶ locate
- ▶ manage
- ▶ utilize

internal and external data resources.



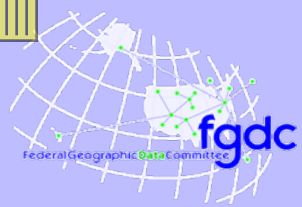
Creation of robust metadata is in your OWN best interest!



This is the conclusion of: Value of Metadata.

You should be able to:

- ▶ explain the geospatial data distribution role of metadata
- ▶ explain the geospatial data management role of metadata
- ▶ explain the geospatial project role of metadata
- ▶ make the business case for metadata implementation



Geospatial Metadata

What is Metadata

North American Profile Development of ISO 19115

More metadata lessons coming soon.